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GEOGRAPHICAL AND STATISTICAL

REPORT

OF THE

DISTRICT OF BHAUGULPOOR.

BY

CAPTAIN SHERWILL,

(REVENUE SURVEYOR.)

Calcutta:

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1869.

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No. 71.

FROM

THE DEPUTY SURVEYOR-GENERAL,

LOWER CIRCLE.

TO

THE ASSISTANT SECRETARY, GOVT. OF BENGAL,

GENERAL DEPARTMENT.

Supdt. of Revenue Surveys' Office, Lower Circle,
Calcutta, 7th September 1869.

SIR,

IN compliance with your No. 2763 of the 4th August, I have the honor to forward a copy of the Geographical and Statistical Report of the district of Bhaugulpore, with foot notes explanatory of the changes and transfers which have occurred since the report was published.

2. The information received from the Collector of Bhaugulpore has been embodied in the notes.

3. I regret the delay which has occurred in submitting the information called for from this Office, but it is due to my absence on my tour of inspection to Hazareebaugh.

I have the honor to be,

SIR,

Your most obedient Servant,

D. C. VANRENEN, *Lieut.-Col.*,

Deputy Surveyor-General, Lower Circle.

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GENERAL REMARKS

UPON THE

DISTRICT OF BHAUGULPOOR.

GEOGRAPHICAL POSITION—EXTENT.

South of the Ganges, by Captain Sherwill, Revenue Surveyor.

THE district of Bhaugulpoor, comprising 7,801·04 square miles of territory, is situated in the fertile valley of the Ganges, which river divides the district into two unequal portions, the larger portion lying to the south of the river.

The district lies between the parallels of north latitude 24° 02′ and 26° 27′ and meridians of 86° 13′ and 88° of east longitude. The length of the district is 168 miles, or from the southern boundary of Nepal on the north of the district to the northern boundary of the district of Beerbhoom in the south; the average width south of the Ganges is 112 miles and north of the Ganges it has an average width of 20 miles.

The division known as the Damin-i-koh has been transferred to the Sonthal Pergunnahs, which were formed into a separate Non-regulation District in 1855 after the Sonthal insurrection.

The civil criminal jurisdiction of the following pergunnahs was transferred to the Sonthal Pergunnahs at the same time, under the provisions of Act XXXVII. of 1855, amended by Act X. of 1857, *viz.*:—

The Damin-i-koh.

So much of Pergunnah Bhaugulpoor and of Pergunnah Sutteearee as lies east of Gerooah Nuddy, and south of a line drawn eastward from Humza Chuck to the village of Dighee.

Pergunnah	Teeleeagurhee.*	Pergunnah	Umbar.†
„	Jumoonee.*	„	Sooltanabad.†
„	Cheetowleeah.*	„	Godda.†
„	Kankjole.*	„	Umloo Moteeah.
„	Bahadurpoor.*	„	Pussye.
„	Akbernuggur.	„	Hendweh.
„	Inayutnuggur.	Tuppeh	Muneearee.
„	Mukraeen.	„	Belputtah.
„	Sooltangunge.		

* Except such portions of them as are now, or may hereafter be, situated on the left bank of the main stream of the Ganges, so that in any changes in the course of the river, the main stream shall be the boundary.

† Except such detached villages as lie within the general boundaries of pergunnahs not mentioned in this schedule

Boundaries—Divisions.—The district is bounded on the north by the kingdom of Nepaul; on the west by the districts of Tirhoot and Monghyr; to the south, by Beerbhoom; to the east, by Moorshedabad, Malda, and Purneah; and is divided into the following forty-two local divisions:—

SOUTH OF THE GANGES; area, 6,102·07 square miles.*

33 *Thirty-three Pergunnahs.*—Akbernugger, Bhaugulpoor, Buhadoorpoor, Cheetowleeah, Chundun Kuttooreea, Chundweh, Colgong, Danra, Sukwara, Dhurarah, Godda, Hendweh, Huzzar Tukkee, Inayutnuggnr, Jumoonee, Jehangeerah, Kurrukpoor, Kherhee, Kankjole, Lukhunpoor, Mukraeen, Musdee, Purbutpara, Pussye, Suhroee, Singhol Sukhurabadee, Sooltangunj, Sooltanabad, Suteearee, Teleeagurhee, Umloo Moteea, Umber, and Waseela.

4 *Four Tuppehs.*—Belputta, Muneeharee, Lodhweh, and Simroun.

1 *One Division.*—Known as the Damin-i-koh, or the Rajmahal Hills.

NORTH OF THE GANGES; area 1,698·97 square miles.†

4 *Four Pergunnahs.*—Chye, Mulhnee Gopal, Nareedeegur, Nursinghpoor Kooruh.

Total, 42

Under the Mahomedan kings, the district of Bhaugulpoor formed the most eastern portion of the Soubah of Behar, its southern and eastern boundaries abutting upon the Province of Bengal Proper; of which territory the districts of Beerbhoom and Moorshedabad form a part, and where the official accounts, fiscal and judicial, are kept in the Bengali language, whereas in Bhaugulpoor, the accounts are kept in the Hindoostani or Ordoo.

Climate.—The climate of Bhaugulpoor is peculiar to itself; situated between the parching hot winds of Western and Central India, and the damp soil of Bengal, it appears influenced by both. The heat is not so great or so parching as it is a few degrees to the westward, nor so damp as its neighbouring districts, Moorshedabad, Purneah, and Maldah. The heats of summer, or from April to June, are nevertheless very great,—too great to allow the natives themselves to be freely exposed to the direct rays of the sun: to the European, such exposure would most likely be fatal in a few hours. During the hot weather, the thermometer ranges from 80° to 100° during the day; a steady west wind generally sets in at 9 A. M., and continues to blow till sunset; this wind is warm, approaching to hot, but cannot be compared to the true hot wind of North-Western India.

The weather from June to September, or what is styled the rainy season, is much more pleasant to the feelings, from the immense quantity of moisture suspended in the air; but the sun, being unobscured by dust as it is in the hot weather, strikes

			Sqr. miles.
	* Original area south of the River Ganges		6,102·07
DEDUCT.	Sonthal Pergunnahs	3,634·90	4,250·58
	Pergunnahs transferred to District Monghyr	615·68	
			1,851·49
ADD ...	Area of portion transferred from Purneah		47·49
	Area of District Bhaugulpoor south of River Ganges		1,898·08
	† Original area north of the River Ganges		1,698·97
	Add transfers from Purneah and Monghyr (noted at page 72)		700·97
	Area of District Bhaugulpoor north of River Ganges		2,399·94
	Total area of District Bhaugulpoor north and south of River Ganges		4,298·92

down its rays in a peculiarly dangerous manner, especially when an assemblage of clouds favors the formation of a focus for the rays to descend in a concentrated manner; such a sun has the power of blistering the skin as if actual cautery had been applied. During the rainy season, an east wind generally prevails.

During the cold weather, or from October to March, the weather is peculiarly fine and well suited to the European constitution; a steady light westerly or easterly wind blows; the air is cool, and the thermometer in December descends as low as 33° during the night.

A spectator standing at mid-day during the hot weather in any of the pergunnahs that lie to the eastward of the Rajmahal Hills, may distinctly observe the termination of the hot winds and the commencement of the humid atmosphere of Bengal.

The hot wind is seen on a level with the highest peaks of the Rajmahal Hills, which rise to 2,000 feet, and up whose western flank the hot wind has been driven from the plains of Monghyr and Bhaugulpoor, and is represented by a huge, yellowish-brown stratum of heated air, highly charged with minute particles of dust, and peculiarly electrical; this bank or stratum, extending to near the base of the Himalayah mountains, never descends again, but lifted up, and there retained by the damp atmosphere of Bengal, is lost or cooled in the upper regions of the air; the mark of separation between the heated electrical, and dust-charged atmosphere of Western and Central India, and the damp air of Bengal, is so defined, and so nearly stationary during the day, that its height, limits, and rate of progression are all capable of measurement.

The climate of Bhaugulpoor is peculiarly suited to the growth of rice, which forms the staple agricultural produce of the district.

Aspect—Hills—Geological Structure.—The aspect of the district is pleasing, from the great abundance of mango plantations and palm-trees that are scattered over the whole surface of the country, and from the numerous detached hills, and connected ranges of hills, that break the monotony of an otherwise level country.

The principal hills are the Rajmahal Range, a fine mass of basaltic and carboniferous hills, lying meridianally near the eastern boundary of the district, shutting out the fertile but dry kunkurferous plains of Bhaugulpoor from the pure alluvial soil of Bengal. This range extends from the Ganges River on the north to the Brahminee River on the south, (and which river forms the boundary between Moorshedabad, Beerbhoom, and Bhaugulpoor,) a distance of seventy miles, with an average width of twenty miles. These hills occupy 1,366 square miles; their greatest height does not exceed 2,000 feet. A full description of this interesting tract will be found in the accompanying published notes, entitled "Notes upon a Tour through the Rajmahal Hills," furnished by myself to the Asiatic Society's Journal.

From near the south-western extremity of the Rajmahal Hills, a tract of elevated land sweeps across the whole district, with a bold curve to the west and north-west, until it unites with the Kurrukpoor Hills, which terminate in the bed of the Ganges at Monghyr, and which range of hills separates Monghyr from Bhaugulpoor.

The mass of low level country thus shut in by the Kurrukpoor Hills on the west, by the Rajmahal Hills on the east, the Ganges River to the north, and by the great curve of high land to the south, consists of a mass of rich, cultivated, and highly productive land, amounting to about 3,125 square miles; this is the finest portion of the district, the most densely populated, best cultivated, because it has the finest soil, is level, well watered, and is free from rocks or unproductive ground. The upper or high

land, which consists of highly contorted gneiss rock, is about 500 feet above the Ganges, and is rocky, hilly, broken into deep ravines, covered with forest, or is so dry as to be generally unproductive, and is consequently in a state of nature. This high land is nevertheless not without its uses and benefits to the district, and that to no small extent; it serves as the grazing ground for cattle during the hot weather, when every particle of vegetation is scorched up in the plains. It produces an abundance of wood for ploughs, for building purposes, and for fire-wood; it produces bamboos, grass, barks, gums, tusser silk, slates, building stone, honey, copper, lead, antimony, silver, iron, and coal; besides numerous sorts of grain, but these latter in very limited quantities. The mahooa petal (*Bassia tatifolia*) is largely collected and used in the distilleries; catechu is also manufactured from the *Mimosa Catechu*, and is exported to Europe.

Rivers.—The principal river in the district is the Ganges, flowing for 120 miles directly through the district from west to east, throwing about one quarter of the whole district, or 1,698·97 square miles, contained in four pergunnahs, on the northern or left bank; this tract having been surveyed by the establishment under Mr. Pemberton, Revenue Surveyor, its geographical features or productions will be found described in that officer's report.

The river is navigable for boats of any tonnage, and for steamers during the whole year. The average width of its bed is three miles; during the hot weather only one-half of a mile of this extent is filled with water, but during the rainy season the whole three miles of the deep bed, together with a margin of ten or fifteen miles of inundation in the northern bank, and one or two miles on some parts of the southern bank, give the river the appearance of an extensive sea, driven or influenced by a rapid and dangerous current.

The other rivers of note are the Kosey and Ghugree, whose united waters flow into the Ganges on the left or northern bank, eight miles north of Colgong.

North of the Ganges there are numerous nullahs, the principal of which are the Talabah, Tiljooga, Balee, and Lorum, all flowing into the Ganges.

To the south of the Ganges numerous small streams descend from the high land to the south, and flow in a northernly direction into the Ganges; the largest and most important of which is the Chandun, whose course, uses, and nature, are fully described in the history of Pergunnah Bhaugulpoor.

Irrigation.—Irrigation, whenever practicable, is resorted to, either from streams, or from tanks, or from wells; the level land before alluded to, as situated to the north of the southern hills and south of the Ganges, is universally irrigated, producing fine crops of rice, mustard, castor oil, murrooa, kesari, sugarcane, gram, besides many of the smaller crops.

* *Towns.*—The principal towns in the district are the civil station of Bhaugulpoor, situate on the right bank of the Ganges, where there is also a regiment of Rajmahal Hill Rangers. The "Barari" Great Trigonometrical Station, at the north-eastern extremity of the town, is in latitude 25° 51′ 51,″ and longitude 87° 3′ 23.″—Rajmahal, Colgong, both on the right bank of the Ganges, and Kurrukpoor, situate inland.

Good substantial villages, containing upwards of a thousand inhabitants, are thickly spread over the country; though pukha buildings, except in the towns above-mentioned, are almost unknown, the huts of the zemindars and ryots being either made with mud-walls and thatched roofs, or are constructed entirely of wattles, mats, and thatch.

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* The Regiment of Hill Rangers was disbanded in 1863, and a regular Regiment of Native Infantry is now stationed within the Military Cantonment called Kurngurh.

The general caste of the inhabitants are Hindoos, with a small population of Mahomedans, but these latter are mostly found in the large towns, and seldom in the villages.

In the pergunnahs lying to the east of Rajmahal Hills, Bengalis are found occupying the land. The Rajmahal Hills are occupied by the hill men and by Sonthals; the high land south of the great plain is also occupied by Sonthals, Bonyas, Ghatwals, iron smelters, and by several other classes professing little, if any, respect for caste.

Population.—With regard to population, the district of Bhaugulpoor, when compared with other and neighbouring districts, shows but a very scanty population. The highly cultivated portions, however, give 343·4 souls to each square mile, whilst the more moderately cultivated portions give 154·1 souls; but the whole district gives only 109·5. This is accounted for by the large extent of unproductive, and consequently unoccupied, land to the south, which tract nearly equals in extent the cultivated and occupied land.

* *Roads.*—The roads in the low lands, are merely nominal, being either washed away yearly, ploughed up, or so neglected, as to be for nine months in the year impassable for wheeled carriages.

The roads on the high lands, being upon good hard soil, which can boast of a very fine gravel, are good all the year round, although very tortuous, as they wind to avoid every ravine, rock or hillock or patch of broken ground. The roads in the Rajmahal Hills, which were cut by Mr. Pontet, who is in charge of this tract of country, and which extends for upwards of 300 miles in length, are perfect.

Cattle.—The principal draught cattle in the district are buffaloes, and the common grey bullock; horses, mules, and asses are almost unknown; cows, pigs, poultry, and pigeons are common.

Wild Animals.—The wild animals of the district are tigers, leopards, panthers, and all the smaller felinæ; rhinoceros, elephants, bears, badgers, rusa stags, hog-deer, wild hog, barking deer, antelope, jungle fowl; of partridge there are the black, painted, grey, and double spurred; two sorts of quail, ortolan, boa constrictor, most of the deadly ophidia, water-snakes, turtle, a great variety of fish, two sorts of aligators, porpoises; besides numerous birds, reptiles, and smaller mammalia.

† The Revenue Survey general operations of this district commenced in 1846 and terminated in 1850. The total expense incurred amounts to rupees 1,31,387-15-2, and the average rate per square mile to rupees 15-4-2.

The Maluncha series of the Great Trigonometrical Survey of India passes through the centre of the district, the several points of which have been laid down where met with.

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* Four Imperial roads have been constructed since the date of report :—

Bhaugulpoor to Soorce.
Ditto to Muddehpoorah (Railway Feeder.)
Burriarpoor to Khurruckpoor (ditto.)
Sooltangunge to Arjisgunge (ditto.)

The East Indian Railway passes through the district, intersecting the southern portion and passing the following towns, at which there are stations, *viz.* :—Peerpointee, Colgong, Ghoga, Bhaugulpoor, Sooltangunge, and Burriarpoor. It also passes the following stations in the Sonthal Pergunnahs :—Sahibgunge, Maharajpoor, Teenpahar, Rajmahal, Bahawa, Pakour, and Moorarce.

† The resurvey of the Dearch lands bordering on the Ganges took place in 1866-67, under the provisions of Act IX. of 1847.

KURRUKPOOR.*

This pergunnah is divided into two portions, the northern or hilly tract, the property of Roodur Buhaidoor Sing, the Maharaja of Dhurbunga, and the southern, or partially cultivated portion, also including a portion of the Kurrukpoor Hills, as well as a large portion of the plains at the foot of the hills and the capital town of the same name.

The northern portion, containing an area of 103 square miles, is a mass of hill and jungle, with a small belt of land below the hills on the northern face, containing two small hamlets of wood-cutters and gowallahs.

A full and detailed account of these hills will be found in my Geological Report, attached to these Notes.

In the hills are seven small hamlets, containing about 250 hill men and their families, who cultivate a moderate quantity of land, which produces junera, indian corn, capsicums, and beans; they are principally herdsmen, wood-cutters, or iron smelters, the jungles affording excellent pasturage for cattle, as well as producing good timber, both large and small, and the soil, being rich in iron-ores, the smelters find full occupation for their forges; the iron is taken to Monghyr, where it is considered very good. The jungles also produce large quantities of grass, building stone, slate, mill-stones, red chalk or reddle, bamboos, roots, barks, gums of various kinds, and wild yams.

Of the southern portion, only one-fifth of the whole area is under cultivation; the remainder of the land is occupied by hills and dense jungle. The rivulet Mun, flowing from the hills through a deeply wooded and rocky valley, flows past the town of Kurrukpoor, which is situated on the right and high bank of the stream. The town is a fine substantial-looking place, boasting of a mosque and many pukha buildings. This part of the pergunnah was surveyed in 1839-40 by Lieutenant Ellis, and the boundary revised again at the time of the general operations.

The produce of the cultivated land is rice, wheat, poppy, junera, indian corn, murrooa, a small quantity of cotton, castor oil, and a variety of pulses.

DHURARAH.†

This is a small pergunnah of ten and a half square miles lying at the foot of the northern face of the Kurrukpoor Hills, an out-lying hill from which occupies upwards of three square miles of its total area.

The land lying in the close vicinity of the hills on one side, and being bounded by the low and flooded lands of Pergunnah Monghyr on the other, is peculiarly adapted for rice cultivation, which, with a few exceptions, occupies nearly the whole pergunnah, the exceptions being four hundred and forty-eight beegahs occupied by poppy for the production of opium, which is irrigated; a small quantity of land occupied by junera and indian corn, and a strip of jungle immediately under the hill forming the boundary of the pergunnah to the south.

The principal villages are Dhurarah and Mohunpoor, two substantial villages.

	Acres.	*B.*	*P.*	*Sqr. miles.*
* Transferred to District Monghyr. Area	1,21,638	0	29	= 190·06
† Transferred to District Monghyr. Area of Dhurarah	6,725	1	5	= 10·50

PURBUTPARA.*

This large pergunnah, with an area of 195¾ square miles, has but a very small portion of its area fitted for the plough; being the summit of a series of rocks connecting the Kurrukpoor Hills with the Vindhya range to the south, and being scantily covered with soil, and the rocks protruding in every direction, nature has not been interfered with to any great extent. 150¾ square miles of the whole surface of the pergunnah are covered either with rocks, hills, ravines or low scrubby jungle, which in some parts rises into fine timber trees.

The spots that are cleared around the villages, amounting in all to forty-five square miles, produce rice, junera, indian corn, poppy, murrooa, muhooa petals, and mango-trees in abundance, the soil between the hills and rocks being a fine black kewal, a rich mould mostly composed of decayed vegetation.

The pergunnah produces an abundance of iron, which is smelted by a race called Korah and Nyah; it also produces tusser silk, catechu, timber, bamboos, grass, and a variety of barks and dyes.

The cultivators are principally natives of the hilly tracts, who profess to be Hindoos, but neither in face nor in customs do they resemble the Hindoos of the plains; they are named Sonthals, Bhoonyahs, and Ghatwals,—a quiet, ignorant, and hardy race of people.

A tortuous and stony road through the forest traverses the northern portion of the pergunnah, leading from the Ganges through Kurrukpoor to Mulehpoor, where there is a thannah on the banks of the Nuktee nullah, one mile above its junction with the Keeul River; from Mulehpoor the road turns off to the south to the cultivated portion of Pergunnah Ghidhour, and to the high lands of Pergunnah Chukye of Zillah Monghyr.

The Nuktee nullah, a mountain torrent, forms the boundary to the south of the pergunnah, between Zillahs Monghyr and Bhaugulpoor, and falls into the Keeul River, one mile before leaving the pergunnah.

Four miles from the western boundary, the Nuktee receives the Augun nullah, also called the Rakus Jor, which has its rise from a hot spring in the Kurrukpoor Hills. One thousand and fifty-five beegahs are under poppy cultivation, yielding 159 maunds of opium.

About a mile to the north of Pandoo village, a small hill yields corundum, though I could not discover the exact site.

To the north of the northern portion of Pergunnah Kurrukpoor, and lying detached at the foot of the hills, are two small tuppehs belonging to Purbutpara, named Simroun and Lodhweh.

† Tuppeh Lodhweh lies to the east of Pergunnah Dhurarah, and comprises an area of about ten square miles of highly cultivated rice-lands, adjoining the flooded lands of Pergunnah Monghyr, and with the exception of a strip of low jungle at the foot of the Kurrukpoor Hills, presents a surface consisting of a sheet of cultivation, prettily diversified with mango groves and palm-trees. The whole of the cultivation is irrigated.

Tuppeh Simroun lies to the south of Dhurarah, and has an area of five square miles, one-half of which is jungle, the remainder is under rice cultivation.

	Acres	*R.*	*P.*	*Sqr. miles.*
* Transferred to District Monghyr. Area of Purbutpara, with Tuppehs Lodhweh and Simroun	125,369	2	8	= 195·90

† Tuppehs Lodhweh and Simroun, and Pergunnah Singhol, have been transferred, entire, to District Monghyr.

SINGHOL.*

This pergunnah, with an area of nearly thirty-square miles, has about twenty-five of the same occupied by a portion of the Kurrukpoor Hills and jungle; the remainder is a well irrigated and cultivated tract of land, yielding rice, junera, indian corn, murrooa, poppy, ahur dal, and sugarcane, mostly irrigated, as the soil is rather dry, being situated on high ground.

The hills produce iron of a good quality, which is smelted on the eastern boundary of the pergunnah, also timber, fire-wood, muhooa petals, grass, and bamboos, besides affording pasturage to herds of buffaloes.

In a secluded nook in the northern face of the hills is a temple built near a pool of water, resorted to by pilgrims and holiday makers from the plains; the temple is called Singhee Rikh.

SUHROEE.†

With the exception of seventy-four square miles occupied by hills and jungle, the land of this pergunnah is well cultivated and inhabited. To the west and south-west, where it abuts upon Pergunnah Purbutpara, as well as to the south-east, a good deal of land is occupied by rugged rocks, hills, ravines, and dense jungle, and in the north-eastern portion of the pergunnah, patches of grass and low bush jungle occupy a few square miles.

The produce of the pergunnah is rice, wheat, junera, indian corn, morrooa, sugarcane, castor oil, pulses, and poppy in great abundance; by the latter crop 3,533 beegahs are occupied, yielding upwards of 430 maunds of opium per annum; this latter crop is diligently irrigated; the other crops are not generally so. The same labour does not appear to be bestowed upon the crops in this zillah as is done in Behar.

In the south-eastern corner of the pergunnah is the Koojee Ghât, a hill defile leading from the low lands to the jungles and hilly tracts. The road winds for upwards of twelve miles through a series of high hills, over rocks, stones, and occasionally in the bed of a mountain torrent, and is the great exit from the hills of Chandun Kutooreea, and Danra Sukwara, and down which the Sonthals bring wood, ploughs in the rough iron, bamboos, catechu, tusser silk, and other articles, the produce of the jungles. The jungles are much infested with tigers and other dangerous wild animals.

In former days, this pass as well as all the other passes in these hills were fortified, either with heaps of stones, timber, or other impediments, in order to keep out the Mahomedan horsemen, who, it appears, frequently attempted to penetrate into these hills, but without success; nor do these hill people ever appear to have acknowledged the Mahomedans as their masters, or their hilly territory as a fief from these would-be lords.

A road traverses the pergunnah from north to south, leading from Bhaugulpoor by the Koojee Ghât to Byjnauth or Deoghur, a place of pilgrimage in the district of Beerbhoom. Many good village roads traverse the pergunnah in several directions.

The Bunorooah nullah, flowing from the southern hills nearly through the centre of the pergunnah, divides it into two unequal portions.

The principal villages in the pergunnah are Budhowneea, Chora, Tarrapoor, where there is a thannah, Doorgapoor, Lawna, Budhwara.

	Acres	*R.*	*P.*	*Sqr. miles.*
* Pergunnah Singhol. Area	19,132	3	39	= 29·89
† Portion of Pergunnah Suhroee has also been transferred to District Monghyr. Area	57,345	2	23	= 89·60

WASEELA.

A little more than one-third of this pergunnah, or fifty-one square miles, is occupied by hill and jungle in a state of nature; the remainder is tolerably well cleared and cultivated, especially towards the northern boundary, where it abuts upon Pergunnah Suhree, and produces good crops of rice, sugarcane, wheat, castor oil, junera, and poppy; the latter crop occupies seven hundred and six beegahs.

The southern half of this pergunnah is high and dry ground, producing very scanty crops of rice and mustard, and is inhabited by Sonthals, Korahs, and other castes similar to those in Purbutpara.

The Bilhur and Bunrooah nullahs flow through the pergunnah from south to north.

Bilhur and Doomreea are the chief villages of the pergunnah.

Iron is smelted in the jungles by the Korahs, and tusser silk is collected by the zemindars from the asun trees, and exported to Bhaugulpoor.

CHANDUN KUTOOREEA.

This ill-shaped and straggling pergunnah, extending thirty-two miles from north to south, is a mass of hill and jungle, high rocky ground, ravines, gravel, and unproductiveness; cultivation is seen only in spots around the Sonthals' huts and around the small villages scattered over the face of the pergunnah. The Chandun River rises in the south-western corner of the pergunnah, and leaves it again on the south-eastern corner. All along the banks of this river, iron of a good quality is smelted, giving occupation to about three or four hundred families who reside in and near the jungles, from whence they derive the iron ore and charcoal for smelting it. The progress of smelting is similar to that practised in all parts of India, and is no way more removed from extreme primitiveness than in any other zillah; the iron is exported together with tusser silk, catechu, bamboos, grass, barks, and dyes, productions of these jungles, to Bhaugulpoor.

Veins of copper containing lead and silver are to be seen near the southern boundary of the pergunnah, in the village of Bhyrookhee, of Pergunnah Deoghur of Beerbhoom, and doubtless, were these barren rocks and jungles fully examined, more treasure would be forthcoming in the shape of the precious ores.

The principal races inhabiting these jungles are similar to those inhabiting Purbutpara, *viz.*, Ghatwals, Sonthals, Bhoonyahs, Korahs, and Nyahs.

The jungles are well supplied with game, such as tigers, leopards, bears, spotted deer, neelghy, pigs, jungle fowls, peacocks, hare, and partridge.

A small quantity of poppy is cultivated in the northern portion of the pergunnah, amounting in all to 104 beegahs.

DANRA SUKWARA.

Of the whole area of this extensive pergunnah, only one-eighth is under cultivation, the rest being in a state of nature, and is occupied with hills, ravines, and jungle. The cultivated portion lies along the banks of the Chandun River, which flows through the whole length of the pergunnah from south to north. The cultivated lands produce good and

luxuriant crops of rice, wheat, poppy, ahur dal, sugarcane, koortee, kullye, junera, goondeelee, which are watered from the Chandun.

The high lands produce an abundance of iron, which is smelted all along the banks of the Chandun, employing many hundred families of Korahs or Koles, who gather the ore, burn their own charcoal, smelt the ore, and export the iron. The north-western portion of the pergunnah is occupied by high hills and dense forests, producing good timber, dammer, the rosin of the sâl tree, bamboos, and grass, which are conveyed away for sale to the plains.

The whole of the pergunnah is high ground, considerably elevated above the Ganges, and besides iron, produces tussor silk, the worms for which production are fed upon the asun trees in the jungles; catechu, barks for dyes, muhooa petals, mustard raised by the hill people, caster oil, cotton, and a small quantity of tobacco. The grains are all consumed in the pergunnah, the other articles exported.

The principal villages are Jypoor, Banka, Kudhar, Jumdaha, at which there are police chokees, Danra Sukwara, Luchmeepoor, the residence of a petty Rajah, and Bhoresar, an iron mart. A natural good road traverses the pergunnah from north to south, leading from Bhaugulpoor on the Ganges, to Byjnath or Deoghur in Beerbhoom.

The jungles of this pergunnah are well peopled with half-wild races, harmless, quiet, and peaceable. Their cultivation consists of a few acres of cleared ground around their villages; the forest affords them wood, grass, and bamboos for their dwellings; a few goats and cows afford them milk; their land yields rice, junera, ahur dal, and mustard; the oil of the latter is used in their food, the berries of the byre or *zizphus jujuba* and capsicums dried in the sun constitute their stock of condiments, and a little salt and tobacco their luxuries. Their clothes are either made at home, or are imported from the low lands. They are mostly armed with bows and arrows, with which I have seen them kill bears, birds, and hares,—the latter when at full speed, the birds when on the wing, and the bears when brought to bay.

At Banka a market is held twice a week; at Kudhar and Bhoresar are iron markets.

In the northern portion of the pergunnah is a high hill named Doorga, on which is one of the Great Trigonometrical Survey stations.

CHUNDWEH AND PUSSYE.*

These two pergunnahs, lying contiguous, resemble each other so closely, that a description of one will answer for both.

Both pergunnahs are situated on the high, dry, and rocky ground bordering upon Zillah Beerbhoom, and are but poorly cultivated, the soil being dry, gravelly, or downright rock.

Chundweh has about one-half of its entire area under a very doubtful sort of cultivation, the land requiring long fallow. The produce is rice, junera, goondeelee, mustard, a small quantity of cotton, and tobacco; the remaining portion of the pergunnah is covered with jungle of sakùà, bamboo and low scrubby underwood. The whole pergunnah has a parched-up and forlorn appearance; a small quantity of tusser is produced, as well as iron. The inhabitants are the same as those of Danra Sukwara.

A Trigonometrical station is on the summit of the Rungsar Hill, on the south-eastern corner of the pergunnah, from whence a good view of the pergunnah and the neighbouring land is obtained, exhibiting a mass of jungle as far as the eye can see.

	Acres	*R.*	*P.*	*Sqr. miles.*
* Transferred to Sonthal Pergunnahs. *Vide* page 1. Area . .	1,11,504	2	16	= 174·22

Two small dry nullahs from the south traverse the pergunnah, affording an excellent geological section of the country, and showing the soil to be nowhere of any great depth.

The Chandun River forms the boundary for five miles on the west, separating the pergunnah from Danra Sukwara.

Pussye is still more barren than Chundweh, having two-thirds of its entire area covered with hill, rocks, and jungle, and much broken raviney ground. The crops and inhabitants are similar to those of Chundweh.

To the south is a small cluster of hills consisting of five naked masses of gneiss named Puchpuhar; to the south-east of this hill is a vein of lead ore, which has been known to the natives for upwards of forty years.

A good road passes through this pergunnah, leading from Bhaugulpoor to Soory, the civil station of Beerbhoom.

SUKHURABADEE.*

This is a well cultivated tract of country, bordered by the Ganges to the north-east and by the Kurrukpoor Hills to the west. With the exception of a small portion of the Kurrukpoor Hills, which occupies about three square miles in the north-west corner of the pergunnah, a few patches of jungle near the hills, and a few detached rocks, the entire pergunnah may be said to be cultivated. Great attention is paid to irrigation, the land of the pergunnah being rather dry. Several small streams flow from the hills, two of which rise from hot sources, the Mun and the Kishee Koond nullah. From these streams numerous water-courses are fed, which are seen intersecting the country in every direction. The produce is principally rice, wheat, poppy, indigo, ahur dal, sugarcane, and paun; by poppy alone one thousand two hundred and seventy-six beegahs are occupied; the wheat is grown along and near the banks of the Ganges; the rice in the low land, that is during the rains flooded to the extent of sixteen square miles; and the paun gardens, which are very extensive, are all situated near the hills on the high and dry ground. The surface of the pergunnah is well wooded with mango and palm-trees, except on the flooded portion, which is quite bare, and presents a miserable aspect during the hot weather.

The arm of the Ganges which passes immediately along the northern face of the pergunnah, can only be used by boats during the rainy season, as all connection with the main stream is cut off during the rest of the year. Along the banks of the river is the old Mogul road leading from Calcutta *viâ* Rajmahal, Bhaugulpoor and Monghyr to Patna; it is kept in tolerable repair, and is fit for the use of troops marching

Another good road from Monghyr, passing through the large invalid sepoy village Nya Gurhee, leads to Kurrukpoor, passing through the strip of jungle at the foot of the hills, which affords shooting to the sportsmen of Monghyr. Tigers, leopards, bears, spotted deer, jungle fowl, and peacocks are to be had within fifteen miles of the station.

The Kishee Koond nullah rises from several hot and cold springs under the eastern face of the hills; they flow from hornstone rock, and vary in temperature from 105° to cold water; hot springs and cold are seen close together. The hot stream from the Seetakoond Lake, in Pergunnah Monghyr, also flows through the northern corner of the pergunnah, falling into the River Ganges.

	Acres	*R.*	*P.*	*Sqr. miles.*
* Pergunnah Sukhurabadee has been transferred entire to District Monghyr. Area	44,179	2	26	= 69·03

The principal villages are Nya Gurhee and Kulleeanpoor Kurhureea.

There is an indigo factory four miles south of Nya Gurhee, also one at Bureearpoor, five miles to the south-east of the same village.

On the eastern boundary is a small hill, capped by a Hindoo temple, named Dhol Puharee; it is a place of some note, and is visited by pilgrims during the cold season.

LUKIIUNPOOR.*

This is a small pergunnah lying immediately to the east of Sukhurabadee, which it resembles in soil, crops, and irrigation. It produces abundant crops of wheat, rice, poppy, indigo, sugarcane, ahur dal, all of which, with the exception of the latter crop, are irrigated, for which purpose water-courses and small tanks are seen in every part of the pergunnah. One small village alone, named Ooras, of about 270 acres area, has nine tanks and five water-courses, or ahurs, within its boundary.

The surface of the pergunnah is well and prettily wooded with mango groves, and palm-trees, and is highly cultivated and well populated.

Principal villages are Manikpoor, Urjusgunje, Ghazeepoor, where there is also an indigo factory, and Nya Goan.

A good road traverses the pergunnah from north to south, leading from Bhaugulpoor to Deoghur in Beerbhoom,

Thirteen villages of Pergunnah Kherhee are intermixed with the lands of this pergunnah.

JEHANGEERA.

Within the limits of this small pergunnah are detached lands of Jehangeera, Colgong, Sukhurabadee, as well as the entire small Pergunnah Musdee.

Twenty-seven square miles of the total area are subject to inundation from the Ganges and Chandun Rivers, as well as from various sotahs or low lands immediately to the south of the banks of the River Ganges, as well as bhagurs or back waters from the same river.

The low land above-mentioned, commencing at the Seetakoond Lake at Monghyr, extends to Colgong, a distance of sixty miles; the general width is from two to five miles, and is, during the rainy season, entirely inundated to the depth of from two to six feet.

This pergunnah is protected from the incursions of the Ganges River by a broad bank of clay filled with nodular limestone or kunkur, which extends the whole way through the pergunnah from west to east.

The pergunnah is well cultivated and prettily wooded with mango groves and palm-trees, and produces rice, wheat, poppy, sugarcane, and indigo.

The Sooltangunje well-known granite sculptured rocks, capped with pretty temples, stand in the river, immediately under the southern bank of the Ganges; the western rock is entirely surrounded by water, the eastern one is still attached to the main land, and at its

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	Acres	*R.*	*P.*	*Sqr. miles.*
* Portion of Pergunnah Lukhunpoor has also been transferred to Monghyr. Area ...	17,927	1	21	= 28·01

base is an opium godown for the receipt of the drug previous to its despatch to Patna. One mile south-west from the rocks is a high mound supposed to be the ruins of an old fort; it is composed of kunkur, pottery, and rubbish, and occupies about thirty-five acres of ground, on the summit of which is an indigo factory, commanding a fine view of the Ganges to the north, and the plains and hilly ground to the south and west.

There is a thannah at Kumurgunje, and a Trigonometrical Survey station near the indigo factory mound.

The old Mogul road follows the banks of the River Ganges, and a good village road passes through the pergunnah from north to south.

PERGUNNAH BHAUGULPOOR.*

This pergunnah is bounded for ten miles on the northern face by the River Ganges, whose bed is here much obstructed with shifting sand-banks.

This pergunnah towards the northern portion is very low, being inundated during the rainy season by the united waters of the Chandun River and several smaller nullahs flowing from the south. The Chandun leaves the southern hills a broad and impetuous torrent, but as it nears the low land, it spreads all over the country by about fifteen different channels, only three of which ever reach the Ganges. One of these streams retains the name of Chandun, a mere water-course, which, flowing through a hard kunkur soil, pours its water into the Ganges at Chumpanuggur, two miles west of the town of Bhaugulpoor.

A broad belt of kunkur, extending the whole length of the northern face of the pergunnah, forms a natural and effectual barrier to incursions of the River Ganges. It is upon this broad kunkur belt that the town and station of Bhaugulpoor is situated; and were it not for this bank, the River Ganges would flow five or six miles further to the south than it now does, or through the low and inundated country. This bank of kunkur is about two miles broad and densely wooded with mango, jack, fan-leaf palm, date-trees, and gardens, and extends from near Monghyr to Colgong, a distance of sixty miles. It is to the presence of this dense belt of forest that Bhaugulpoor probably owes its salubrity, as the trees offer a most effectual barrier to the large bodies of malaria that arise from the extensive flooded country immediately to the south, trees possessing the well-known property of absorbing, and otherwise rendering innocuous, large bodies of malaria and other gases inimical to human existence.

Immediately on leaving this belt or forest, and proceeding to the south, the country is found to be very low and almost treeless, and from its being inundated during the rainy season, is almost entirely devoted to rice cultivation. This broad and low belt of land is about four miles in width, and extends the whole length of the pergunnah east and west. On leaving this low land the country rises a few feet, and although rice is still extensively cultivated, wheat, sugarcane, poppy, mustard, ahur dal, paun, koorthee, castor oil, and garden stuffs are seen in great abundance, all bespeaking a rich and profitable soil, which is of a light greyish color or kewal.

Mango groves and palm-trees, babool acacias, banian and peepul trees occupy a large portion of the land, giving to the landscape a cheerful appearance.

	Acres	*R.*	*P.*	*Sqr. miles.*
* Portion transferred to Sonthal Pergunnahs. *Vide* page 1. Area	95,057	0	35	= 148·45

Whenever a small stream appears, the lands in its immediate vicinity are irrigated, otherwise the pergunnah generally cannot be said to be under irrigation. During the rainy season, care is, however, taken to lead the water from the Chandun River and nullahs, by ditches and water-courses, to the rice-fields.

Numerous villages occupy the land, but the huts are of a very miserable description. Cattle are abundant, both cows, bullocks, and buffaloes. There are none, or very few horses or ponies.

Where the high road from Bhaugulpoor to Beerbhoom crosses the Chandun River, or about twenty miles from the station of Bhagulpoor, the country begins to wear a different aspect, the land rises by an easy ascent, the hilly country commences; the soil being less deep than to the northward, and lying as it does upon rocks of primitive formation, the water is more superficial, allowing the trees to attain an enormous growth, far beyond any thing that is ever seen on the deep alluvial plains of the Ganges; the muhooa (*bassia latifolia*,) now becomes common, the palms almost cease to be seen, the mango-trees are no longer seen in planted groves, but are scattered about in small groups; the cotton-tree attains an enormous size, measuring sixty and seventy feet in circumference, patches of dhâk jungle appear, the fields of wheat and gram, instead of being neatly ploughed east and west, as is the case in the highly cultivated or northern and central portions of the pergunnah, are shapeless and irregular, large spaces of grass land and bushes being left between the fields, villages become scattered,—all bespeaking a country but lately reclaimed from the neighbouring jungle.

About one half of the pergunnah is occupied by unproductive jungle land, both of grass, bushes, and trees, principally lying in the eastern and southern portion of the pergunnah; the western portion and the land lying along the banks of the Chandun being highly cultivated and productive. In the south-east corner, six square miles are occupied by hills, the same amount of land is similarly occupied in the south-east corner in Tuppeh Barkop; and the remarkable granite (gneiss) hill Mundar stands near the southern boundary.

The lands of this pergunnah are much intermixed with those of other pergunnahs; two entire pergunnahs, or Suteearee and Huzar Tukkee, are situated within its boundary, besides lands of Colgong, Kherhee, and Umloo Moteea.

The most remarkable objects in the pergunnah are, first, the town and station of Bhaugulpoor. The town is a miserable straggling collection of huts, extending over four miles of ground cut up and divided by fields, gardens, plantations, and numerous roads, the whole place resembling an inhabited forest rather than a town. Chumpanuggur and Luchmeegunje, two large contiguous towns, lie immediately to the west of the old Kurrungurh fort, and form a portion of the town of Bhaugulpoor; these towns are filled with weavers, traders, and dyers, and have numerous markets. Nathnuggur, another large town lying a little to the south of the two former towns, is also full of gram-dealers, traders, and markets, and is highly populous. Kurrungurh, a high raised mound nearly two miles in circumference, is the site of the cantonment of the Bhaugulpoor Hill Rangers; it is a high, dry spot, commanding a fine view of the River Ganges. It appears to have been originally built upon a kunkur bank though much raised by ruins, rubbish, pottery, and earth, a section lately cut in making a road up to the fort shewed remains of pottery to the depth of ten or twelve feet; according to Buchanan, the fort appears to have been built by the Kurna Rajahs.

At Chumpanuggur, which is at the extreme west of the town, are the remains of Jain temples.

2ndly.—The Mundar Hill, a mass of naked granite (gneiss) lying near the southern boundary of the pergunnah; it is also named Mudsoodun; this hill is about 800 feet in height, the summit of which is gained by a flight of steps cut in the solid rock. Remains of tanks, temples, walls, statues, fortifications, inscriptions, and other marks, shew this to have once been a place of note. At the present day a modern Hindoo temple stands on the summit of the hill over-hanging a fearful precipice, from the summit of which the base is not visible, by reason of the bulging out of the polished granite rock. The temple is dedicated to Mahadewa and contains a priapus; it is visited every year during the month of January, during which period there is a fair held at the village of Bowsee, three miles south of the hill, at which village there is a collection of viharahs or temples. The most remarkable image on the hill is an Egyptian-looking figure of a gigantic size, cut from the solid rock, but is in an unfinished state. It measures eight feet four inches across the forehead, and is fifty-two feet eight inches in height; this figure should be visited and examined by some one having time to examine all the details, copy the inscriptions, and make plans of the hill, as it is a place of interest. The figure is not worshipped by the Hindoos.

On the summit of the temple is a Trigonometrical Survey station, and from this spot a fine view of the country is obtained; looking to the north, or towards the Ganges, the eye wanders over the fertile plains of Bhaugulpoor, one mass of cultivation extending for hundreds of square miles prettily varied with villages and mango plantations; but to the west and to the south, looking over Pergunnahs Chundweh, Pussye, Chandun Kutooreea, Danra Sukwara and Hendweh far into the Beerbhoom District, is seen an uninterrupted region of jungle, occupying gently undulating and rising ground, here and there broken by detached hills; it is to these jungles that the zemindars are indebted for their bamboos, timber, thatching grass, iron, muhooa petals, tusser silk, catechu, ploughs, carts, several dyes, as well as the jungles being during the hot weather the refuge for the large herds of buffaloes and cattle, when every blade of grass is burnt up in the cultivated plains.

To the west, the Rajmahal Hills are seen extending in an unbroken line for seventy miles, north and south; up to the foot of which this pergunnah extends.

The main road from Bhaugulpoor to Sooree or Beerbhoom traverses the pergunnah from north to south, and as it is of a very questionable nature, carts or any wheeled conveyances, with the exception of the miserable solid wheeled hill carts, are seldom if ever seen travelling on it; Byparee pad bullocks performing all the work required either for the exportation of rice, muhooa petals, or sugar to the Ganges, or for the importation of tusser silk, catechu, muhooa petals for the distilleries, barks, bamboos, iron, and small timber from the southern jungles.

The Calcutta old road passes through the northern part of the pergunnah, skirting the banks of the River Ganges, and passing through the station of Bhaugulpoor.

Village roads intersect the pergunnah in all directions, but are in a wretched state, being mostly impassable for wheeled carriages; the money expended upon their repairs being totally insufficient for that purpose; the sum allowed for the repairs of the main road from Bhaugulpoor to Beerbhoom during the cold weather of 1849-50 having been five rupees per coss, equivalent to five shillings sterling per British mile.

The principal towns are Bhaugulpoor civil station, Nathnuggur, Chumpurnuggur.

Principal villages, Ruttunpoor, where is a thannah; Doomranwan; Umurpoor, where is a Moonsiff's Kutcherry, opium godown, thannah, and indigo factory; Suleimpoor; Chundeepa; Badakhyra; Bede Sejour; Gobrain; Tadur; Seloudha; Nya Nuggur; Muhgawan;

Kurmoo ; Barkop, where is a Trigonometrical Survey station ; Pipra ; Lutona, Bysa; Soondeha ; Owrya. Indigo factories are in the villages of Doomranwan and Umurpoor.

KHERHEE.*

With the exception of about seven square miles of ground to the north, occupied by heavy grass jungle, and two square miles in the centre of the pergunnah, occupied by hills surrounded by a low jungle, this pergunnah is highly cultivated and well populated; the northern portion is subject to inundation during the rainy season, but the southern portion, which is higher ground, produces large crops of wheat, rice, poppy, murrooa, indigo, and sugarcane.

The villages are numerous and substantial, being larger than in most parts of the zillah, the principal of which are Dowlutpore, Koomytha, Manikpoor, Behloo, Kherhee, where there is an abkaree and a handsome tank named Shahkoond, and Umba. At Burawan is the Bussoola indigo factory.

On the Kherhee hill are the remains of an old fort, temples, buildings, a pukha well, and several images.

Several fair village roads traverse the pergunnah.

The lands are not generally irrigated.

COLGONG.

About one hundred and twenty square miles of this pergunnah are subject to inundation from the River Ganges, a great portion of this low ground is not under the plough, being covered with coarse grass or bushes, and a still smaller portion of this low ground is occupied by indigo, a large quantity of which is manufactured every year along the banks of the Ganges.

Eighty square miles are occupied by trees and bush jungle, principally in the eastern part of the pergunnah, where it abuts upon the Rajmahal Hills, the remaining cultivated land is of a good soil, producing abundant crops of rice, wheat, poppy, indigo, sugarcane, junera, and kullye, which are partially irrigated.

The River Ganges divides the pergunnah into two unequal portions; that lying to the north, or the smaller portion, is liable to inundation, being much intersected by branches of the Ganges, and is very much overrun with grass and tamarisk bushes.

Nearly two-thirds of the extensive island named Teentunga, lying in the long reach of the Ganges, which here flows from south to north for eleven miles, is covered with grass and bushes, and is only used as grazing ground for cattle.

The level surface of the pergunnah is occasionally broken through by small hills, and by fine mango plantations.

The high road from Calcutta to Patna passes through the centre of the pergunnah, one halting place being at Colgong, which town is situated on the right bank of the

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	Acres	*R.*	*P.*	*Sqr. miles.*
* Portion of Pergunnah Kherhee has been transferred to District Monghyr, Area ...	1,520	2	1	= 2·38

[Outlying in Pergunnah Lukhunpoor.

Ganges immediately under a small granite hill, on the summit of which is built the dwelling house of Mr. Barnes, an indigo planter.

The bazars of the town are well supplied with grains of different sorts, which are exported in boats, which lie moored in a small nullah that flows to the south of the bazar.

Immediately opposite the town of Colgong, and in the middle of the main stream of the Ganges, stand three islands composed of huge masses of naked granite, causing the current of the river to run with great rapidity past the town. Around the base of these rocks large quantities of fish are snared by the native fishermen.

The principal villages are Colgong, where there is a police chowkee, post or dâk house, indigo factory, coal depôt for the river steamers, bazars, and ferry. Pyntee, where there is an indigo factory, market, and ferry; Peealapoor, where is a bazar and indigo factory; there are also indigo factories at the following places, Burranee, Shunkurpoor, Shampoor, Sahoo Bara, Mudhoopoor, Luchmeepoor, Mudsoodunpoor, south of the Ganges: and Ismaelpoor, Ramnuggur, and Azeinabad north of the Ganges.

The Koosi River, flowing from the Himalayah mountains through the Morong and Zillah Burneah, falls into the Ganges on the northern boundary of the pergunnah; the sand brought down by the Koosi forms shifting beds off its mouth, which interfere considerably with the navigation of the Ganges, and are particularly troublesome to the steamers.

Several small and insignificant streams, drainers from the southern hills, traverse the pergunnah and fall into the Ganges, namely, the Goga, Bhijna, and Kowa, and on which there are ferry boats where they cross the high road.

GODDA.*

This is a small pergunnah lying at the immediate western foot of the Rajmahal Hills, and has about one-third of its entire area occupied by low hills, off-shoots from the Rajmahal Hills, ravines, stony ground, and jungle; the remainder is tolerably well cultivated, producing rice, gram, mustard, junera, cotton, poppy, koorthee, linseed, oord, and a variety of the smaller pulses. The muhooa tree abounds in the pergunnah, the petals of which are collected and exported to Bhaugulpoor.

The inhabitants of the pergunnah consist in a great measure of Ghatwals and Sonthals, who cultivate the soil with diligence.

The principal places in the pergunnah are Dhurosaeen, where there is a thannah and where a fair for the sale of brass pots, cotton cloths, iron, salt, tobacco, beads, and trinkets, is held for fifteen days during the month of Maugh or February; the fair is well attended by the hill people, who exchange the produce of their hills, *viz.*, wood, ploughs in the rough, wooden platters, pestles and mortars, colored earths, honey in great quantities, junera, charcoal, bamboos, rough bedsteads and capsicums, for salt, tobacco, rice, sweetmeats, oil, cloths, beads, and earthen pans.

Kusba Godda, the capital of the pergunnah, is a small village situated in a fertile plain under rice cultivation, one mile to the south of which, on the banks of the small hill stream *Kujeea*, which flows through the pergunnah from east to west, is the residence of Mr Fitzpatrick, an English zemindar, whose estate, as far as the eye can see, is a mass of rice and gram cultivation. The other large villages are Kojhee and Bunka Ghat.

	Acres	*R.*	*P.*	*Sqr. miles.*
* Transferred to Sonthal Pergunnahs. *Vide* page 1. Area...	88,111	1	24	= 137·68

Immediately to the south of Pergunnah Godda are 5,220 acres of rocky and jungly ground, belonging to Pergunnah Sooltanabad, which pergunnah is situated to the east of the Rajmahal Hills, distant about 16 miles; it is populated by Sonthals, and a very few acres are cleared of jungle although it contains 12 villages.

The pergunnah is crossed in every direction by village roads; a tolerable cart road leads from Mr. Fitzpatrick's house to Bhaugulpore.

UMLOO MOTEEA*

Is a small pergunnah of thirteen square miles, bordering upon Godda, which it resembles, being under rice and gram cultivation; about one-fourth of the whole area is in a state of nature, being overrun with low bushes and jungle. Kusbeh Motea, its capital, is a substantial village.

A small quantity of tusser silk is collected from the asun trees in this pergunnah.

HENDWEH.†

This pergunnah, occupying 566 square miles, is situated upon the high rocky land forming the water shed of the series of streams flowing respectively to the north and to the south. About one-third of the whole area is cultivated; the remaining two-thirds are in a state of nature, being occupied by either hills, bare gneiss rocks, ravines, patches of unproductive iron clay, kunkur beds or sakùà jungle. The cultivation is generally, with the exception of large and extensive tracts on the north-east and eastern boundary, entirely confined to small patches around the village sites, which are exceedingly numerous though small; the population for so badly cultivated a tract is immense, and consists principally of Ghatwals, Sonthals, and Bonyahs.

The crops grown in the pergunnah are principally rice, mustard, wheat, junera, cotton, and the small pulses.

The petals of the muhooa and the fruit of byre or *zyziphus jujuba* are collected, the former exported to Bhaugulpoor, the latter eaten by the resident population. Large quantities of mustard seed are exported towards the Ganges for the manufacture of the *kurwa tel* or mustard oil. The other products of the pergunnah are iron, tusser silk, timber, bamboos.

The principal villages are Noni Haut, a fine flourishing village with a weekly market, a thannah, one Hindoo temple, a very fair bazar, and some fine mango groves. It is situated on very high ground near the banks of a small stream which falls into the More River, three miles from the village. To this village numerous Sonthals resort from their jungle homes to purchase salt, tobacco, beads or grain, or to effect an exchange for those articles, giving in return, bamboos, wood, iron, gums and barks, the produce of the jungles. This village, in former unsettled days, was probably the mart for salt for all the surrounding hill people and Sonthals, whence its name Noni Haut, or salt market. The village is situated upon the high road leading from Bhaugulpoor on the Ganges to Soory, the capital of Beerbhoom; the road, being over hard and gravelly soil, is naturally good, though very tortuous, having constantly to avoid deep ravines and dense patches of jungle.

At Hasdina there is a police chowkee. Sarmi, Jhapania are two large villages, and Baskinath is famous for its temple and tank.

	Acres	*R.*	*P.*	*Sqr. miles.*
* Transferred to Sonthal Pergunnahs. *Vide* page 1. Area .. .	8,269	1	32	= 12·92
† Ditto Hendweh	3,66,889	0	21	= 573·26

The More River traverses the pergunnah from north-west to south-east, receiving within the pergunnah the Pipra, Bhoortooree, and Chupree nullahs, all of which are dry water-courses during the hot weather, though a small quantity of water may at any period of the year be obtained by digging in the sand.

The hills that lie scattered over the pergunnah nowhere rise into distinct ranges except east of Noni Haut, where two small parallel and contiguous ranges are seen; the western one extending 4 miles north and south, the eastern one 5 miles north and south; the detached hills are in general bare and rounded masses of gneiss penetrated by caves and filled with numbers of the common black bears, who commit great devastation amongst the crops, principally devouring the junera. The jungles swarm with jungle fowl, black partridges, peafowl, and bush quail.

A good road from Noni Haut leads to Deoghur west, another through Sarmi and eventually through the Rajmahal Hills to the east; another leads south to Soory, the same road travelling north, leads to Bhaugulpoor. The whole pergunnah is intersected with tolerably good village roads.

A full description of the inhabitants will be found in my account of the Sonthals, attached to this report.

The following statement was given me by the zemindars in the pergunnah.

Madho Sing, zemindar and generally termed Rajah, residing at Nugwan, pays rent to the Rajah of Dhurbunga and owner of the Muhul Kurrukpoor, the sum of 2,231 rupees 6 annas yearly for the greater part of the pergunnah, and collects from the ryots the yearly sum of 42,351 rupees.

The Luchmeepoor Rajah owns 14 villages, for which he pays Government the yearly sum of 182 rupees 9 annas, and collects 2,341 rupees. Rajah Bhowanee Sing pays Government the annual rent of Co.'s rupees 46 and 9 annas for a few villages, and collects 4,042 rupees 8 annas.

Zemindar Horil Narain Sing of Zhonpa pays Government rupees 136-8 and collects rupees 2,382.

Total Government receipts	Co.'s rupees	2,597	0	0
Total zemindar receipts	„	51,116	8	0
Difference	„	48,519	8	0

KANKJOLE.*

This is a very irregularly shaped pergunnah, extending for 32 miles north and south, varying from one and a half to nine miles in width; the lands of the following pergunnahs of Zillah Bhaugulpoor are intermixed with the lands of Kankjole, and as they partake of the same soil, have the same people, and produce the same crops, a separate notice will not be given of these lands; the intermixed pergunnahs' names are Sooltangunge, Akbernuggur, Buhadoorpoor, Inayutnuggur, Chitowleea, Jumoonee, and Mukraeen, besides which, there are intermixed several detached villages of five pergunnahs of Moorshedabad.

Kankjole is bordered on the west by the Rajmahal Hills, and to the east by the Ganges and Zillah Moorshedabad; about one-half of the whole pergunnah area is liable to inunda-

	Acres	*R.*	*P.*	*Sqr. miles.*
* Transferred to Sonthal Pergunnahs. *Vide* page 1. Area	88,551	3	16	= 138·36

tion from the Ganges, and there are extensive tracts of jheel which never dry up, but retain deep water all the year round; these jheels, which commence at Sukree Gullee, or where the Ganges river turns to the south after having travelled in a south-easterly course for upwards of a thousand miles, can be traced through Pergunnahs Jumoonee, Kankjole, and through Zillah Moorshedabad to a few miles below Nuddea on the Bhaugerutty, a distance of one hundred and twenty miles; these jheels are at present disconnected with each other, but tradition asserts that they occupy the former bed of the Ganges which flowed in that direction when the present Ganges or Podda did not exist.

These jheels occupy the line of country through which it was proposed in the year 1832 to cut the Rajmahal canal.

The principal produce of these pergunnahs is rice, indigo, Indian-corn, and junera, a small quantity of wheat, mustard, and the pulses.

The jheels afford an abundance of fish, which are exported to Moorshedabad, Jungipoor and other towns on the Bhaugerutty.

About 5,760 acres are covered with coarse grass jungle, principally in the neighbourhood of the large jheels, and immediately under the Rajmahal Hills, the whole of which is subject to inundation; about 6,000 acres are covered with low bushes and tree jungle, the former habitation of rhinoceros and elephants, and still filled with pigs and deer; of the former large animals, the rhinoceros have retreated to the northern and north-eastern face of the Rajmahal Hills, where they find cover in the dense forest; the elephants have retreated to the south.

About four square miles are occupied by small hills, out-liers of the Rajmahal range, some of which are on the immediate banks of the Ganges.

The principal towns and villages are Rajmahal, Sikree Gullee, Oodwanallah, Unmohobutpoor and Phoodkeepoor.

At Rajmahal there is a fine bazar for grain, iron-ware, cloth, fish, wood, toys, and many other things found in native bazars.

There is also a police thannah, a moonsiff's cutcherry, post office, an indigo factory, a serai, several coal godowns, for the Government and private steam companies' coal; and a ferry across the Ganges; the ruins of the old Mahomedan city extend for about four miles in a westerly direction, mostly buried in rank jungle, the resort of leopards and jackals. Many of the mosques, which are highly elegant, are fast falling into decay. About five miles west of Rajmahal a fine Mahomedan built stone-bridge spans one of the old beds of the Ganges, and is in excellent repair; it is on the high road from Calcutta to Patna, and across this bridge the army under command of Major Adams, in the year 1763, pursued the broken and discomfited army of Meer Oossim Khan, who was himself absent at Monghyr, after the engagement with the British at Oodwanallah, seven miles to the south of Rajmahal, during which engagement 180 pieces of cannon were captured.

The pergunnah is owned by several Begums, who pay into Government the following yearly sums, *viz.*:—

	Rs.	As.	P.
Lan Begum	8,655	7	1¼
Kurreem Ool Nissa Begum	4,796	2	8¾
Hafirun Ool Nissa Begum	2,708	3	4¾
	16,159	13	2¾

AKBERNUGGUR.*

This is a small pergunnah, consisting of five hulkas, four of which were surveyed with Pergunnah Kankjole, and one hulka lies geographically in the district of Moorshedabad.

	Acres	R.	P.
Its total area is	2,714	3	03

BUHADOORPOOR.†

This pergunnah, comprising fifty hulkas with an area of 31,466-0-31 acres, was surveyed as follows; forty-five hulkas, or 18,370-3-03 acres, were surveyed with Pergunnah Kankjole; and seven hulkas, or 13,095-1-28 acres, were surveyed in the district of Malda.

CHEETOWLEEA.‡

This pergunnah was surveyed in 1840-41 by Mr. R. Shaw, Assistant Revenue Surveyor, and comprises an area of 10,013 acres.

It is bounded by the Damin-i-koh on the west and by Kankjole on the east.

HAZZAR TUKKEE.

This small pergunnah, consisting of 6,675-0-15 acres, was surveyed with Pergunnah Bhaugulpoor, by which pergunnah lands it is entirely surrounded.

INAYUTNUGGUR.§

This small pergunnah, consisting of five hulkas with an area of 2,854-1-25 acres, was surveyed with Kankjole.

JUMOONEE.‖

	Acres	R.	P.	Sqr. miles.
This pergunnah was surveyed in 1840-41 by Mr. Shaw, and the exterior boundary again revised with the survey of the adjoining pergunnahs. One village of this pergunnah has been transferred to district Purneah. Area	199	1	3	= 0·31
The rest has been transferred to Sonthal Pergunnahs. Area,	19,686	2	37	=30·76

It is situated at the north-east shoulder of the Damin-i-koh, and is bounded on the east by the Ganges river.

One-fourth only of the pergunnah is under cultivation, the remainder is occupied by jungle, grass, swamps and deep water-courses, where the Ganges once had its main stream.

	Acres	R.	P.	Sqr. miles.
* Transferred to Sonthal Pergunnahs. *Vide* page 1. Area of Akbernuggur ..	2,714	3	03	= 4·24
† Area of Buhadurpoor	31,466	0	31	= 49·17
‡ Area of Cheetowleea	10,013	0	0	= 15·65
§ Area of Inayutnuggur	2,854	1	25	= 4·46
‖ Area of Jumoonee	19,686	2	37	= 30·76

The total area of the pergunnah is 19,886 acres.

MUKRAEEN.*

The lands of this small pergunnah are intermixed with those of Kankjole, with which pergunnah it was surveyed. Its total area is 821-2-10 acres.

MUSDEE.

This pergunnah was surveyed with Jehangeera, and consists of 4,154-2-17 acres.

SOOLTANGUNGE.†

This pergunnah, consisting of acres 197-1-08, was surveyed with Kankjole.

SUTTEEAREE.

This pergunnah was surveyed with Pergunnah Bhaugulpoor, in which pergunnah its lands are situated, and consists of 8,175-1-0 acres. Four villages have been transferred to Sonthal Pergunnahs. *Vide* page 1. Area .. .. .. 307 2 4 = 0·48 *Acres R. P. Sqr. miles.*

TUPPEH MUNEEAREE.‡

This tuppeh was surveyed in 1839-42 by Captain Ellis and others, and comprises 53,179 acres, only one-third of which is under cultivation ; the remaining two-thirds being occupied by jungle, &c. The exterior boundary was duly revised at the time of the general operations.

The tuppeh is contiguous to the north-western shoulder of the Damin-i-koh.

TEELEEAGURHEE.§

This pergunnah is a narrow slip of land lying to the north of the Damin-i-koh and south of the Ganges river, by whose waters nearly the whole of the pergunnah is inundated during the rains.

The surface of the pergunnah has at no very distant period been the bed of the Ganges, as its deep alluvial soil plainly indicates, and upon the soil good crops of indigo, barley, sugarcane, junera and rice are raised.

The Calcutta post road runs through the pergunnah from east to west, but is impassable during the rainy season.

There are several indigo factories in the pergunnah, a good bazar at Sahibgunge, and an old ruined stone fort at Teeleeagurhee, built by the Mahomedans, and through

	Acres	*R.*	*P.*	*Sqr. miles.*
* Transferred to Sonthal Pergunnahs. *Vide* page 1. Area of Mukraeen ...	821	2	10	= 1·28
† Area of Sooltangunge	197	1	08	= 0·30
‡ Area of Muneearee	53,179	0	0	= 83·10
§ Area of Teeleeagurhee	9,412	0	32	= 14·71

which the main road passes. It is built in a dense jungle upon a spur of the neighbouring hills, and which at this spot run down to the Ganges, and during the rains completely commands the approaches to the road.

	Acres	R.	P.
It contains an area of, ..	9,412	0	32

UMBAR.*

This pergunnah, lying to the south of Kankjole, is also bounded on the west by the Rajmahal Hills, and by Zillah Moorshedabad on the east; it is a badly occupied tract of land, more than one-half of the whole area being covered with jungle, ravines, rocks, and hills, the latter out-liers of the Rajmahal Hills. Towards the eastern boundary, the soil is well occupied by rice plantations and numerous substantial villages of Bengallees.

The principal produce of the pergunnah is rice, junera, sirsa, rye, the two latter are varieties of the same plant, sirsa being the red and rye the white mustard; indian-corn, kesarie, and the soondry dye, an account of which will be found in the remarks of Pergunnah Sooltanabad. A large quantity of fire-wood cut from the jungles is exported to Moorshedabad, and mustard-seed is also exported in large quantities to Calcutta for the manufacture of oil.

The greater portion of the pergunnah is owned by a Ranee who resides at Pakour, the only place of any note in the pergunnah.

SOOLTANABAD.†

This pergunnah is situated on the south-eastern boundary of the zillah, bounded on the west by the Rajmehal Hills, and by Zillah Moorshedabad on the east, and Zillah Beerbhoom to the south.

With the exception of 24 square miles on the eastern boundary, and with the exception of small and limited cleared spaces around the village sites, the whole pergunnah is occupied by low hills, broken rocky ground, ravines, gravel and jungle; the pergunnah is very thinly populated, the inhabitants towards the hills and in the jungle consisting principally of Sonthals, and those on the cultivated land being Bengallees with a slight admixture of Mahomedans.

The principal productions of the pergunnah are rice, sugar-cane, indian-corn, kullye and gram. Fire-wood is exported in large quantities, extensive collections of which may be seen in numerous villages, awaiting the periodical rise of the Brahminee Nullah and a few other small streams, to convey it away to the Bhaugerutty River. Iron of a good quality is smelted by the Sonthals from Iron-stone collected in the jungles. A dye, the produce of the soondree tree, *(rottlera tinctoria)* is largely collected and exported toward the Bhaugerutty River; it is a red dye extracted from the small round fruit of the soondree, which is a large tree; the dye is principally used for woollen articles. One anna a tree is paid by the ryots to the zemindar for the privilege of collecting the dye, which sells for two seers the rupee.

Ebony, assun, sakua and other timbers are collected and floated down towards the Bhaugerutty River, but none of any great size, being chiefly used for house and boat building,

	Acres	R.	P.	Sqr. miles.
* Transferred to Sonthal pergunnahs. *Vide* page 1. Area of Umbar ...	92,245	2	18	= 144·13
† Area of Sooltanabad	187,474	2	15	= 292·93

ploughs, carts and for other agricultural purposes. A small quantity of *geru* or red chalk is quarried and exported, being used as a pigment.

The jungles were formerly well stocked with wild elephants, five of which alone remain at the present day, (1850,) having either been captured or killed. These animals create much alarm in the villages lying along their beat, which extends for fifty miles in a westerly direction along the base of the Rajmahal Hills and the base of their out-liers in Zillah Beerbhoom. Several villages in Tuppeh Kunditkarayeh, Zillah Beerbhoom, have been lately deserted on account of these animals, who, though they do not take life, take great liberties with the Sonthals' huts, which being probably covered with leguminous or cucurbitaceous creepers, tempt the animals to destroy the fragile huts for the sake of their verdant covering, which they devour with great avidity. These animals are also said to devour any store of grain they may find in the destroyed huts.

Tigers, deer, pigs, pea-fowl and jungle fowl, abound in the jungles aud ravines.

The principal place in the pergunnah is Mohespoor, a neat substantial village on the right bank of the Banslooee Nuddee, which flows through the Rajmahal Hills, entering the pergunnah on its western boundary, and leaving it on the eastern boundary.

There is a thannah at Bhimpur.

The Brahminee River separates the pergunnah from Zillah Beerbhoom on the southern boundary.

The whole pergunnah is owned by a Ranee by name Jankee Koomaree, whose husband is Gopal Sing; both residing at Muheshpoor.

BELPUTTAH.*

This Tuppeh, forming the most southern point of the district of Bhaugulpoor, comprises an area of 442½ square miles, the greater portion of which is covered with forest, hills, ravines, rocks and broken ground; the surface of the pergunnah is undulating and much more densely wooded than the neighbouring pergunnahs; the trees which consist, principally sakūa, sekulta, ebony, chironjee, kūrūm, peepul, burgut, neem and cotton-trees, attain a large size, and much good sakūa timber is conveyed away yearly to the banks of the More River in Zillah Beerbhoom for the purpose of boat building, and to Soorj, also in Beerbhoom, for building purposes; the jungles teem with bears and tigers and the number of deaths yearly from these latter animals may be reckoned at two human beings a week; a few wild elephants still roam under the subchella group of hills to the south-west.

The villages generally are well shaded by fine mango trees which are scarce in the neighbouring pergunnah of Deoghur. The principal inhabitants are Sonthals and Bonyas, the latter smelt large quantities of iron which is exported to Beerbhoom, the ore is a red earthy nodular iron-stone, which is abundant wherever the rocks are near the surface of the country; magnetic iron-dust is seen sparkling in every water-course and throughout the pergunnah.

To the north, a few hill people reside on the hills, they are the Mal or Maler people, and are similar to the Rajmahal hill tribe, speaking the same language, and possessing the same features, and have the same customs unfettered by caste.

		Acres	*R*	*P.*	*Sqr. miles.*
* Transferred to Sonthal Pergunnahs. *Vide* page 1. Area	...	283,192	2	09	= 442·48

The whole of the hills to the south and west are either granite, gneiss, quartz, or horn-stone with numerous green-stone dykes; but along the banks of the Brahminee River to the north, where the tuppeh is bounded by the Damin-i-koh, extensive beds of good coal, iron-ores, and sand-stone are the prevailing rocks; a description of which will be found in the remarks upon the Damin-i-koh.

The principal crops of the tuppeh are rice, junera, mustard; the more moderate crops are sirgoojah, linseed, cotton, gram, bora beans, urhur dal, oorid, koorthe, goondelee, kodo, and murrooa. The greater bulk of these productions are exported by Bengalee traders residing at Koomūrabad, towards Soory, in Beerbhoom.

The principal villages in Belputtah are Doomka, where there is a thannah; Koomūrabad, the grand mart of the pergunnah and rendezvous of the Sonthals for the purpose of dancing and feasting; Daka and Palasborie.

The More River, an impetuous mountain torrent, intersects the tuppeh and leaves the boundary at Raneebehal through a gap in the hills. The Brahminee River, whose bed is filled with coal beds, bounds the tuppeh to the north-east for twenty miles; neither of these streams are navigable within the limits of the tuppeh.

The principal groups of hills are the Mal and Lukhunpoor group to the south-west, occupying twenty-five square miles; the Subchella group to the west, occupying twelve square miles; the Ramghur group to the east, occupying twenty-one square miles; the Sunkera group to the north, occupying ten square miles; and a nameless group on the southern boundary, occupying twenty square miles.

Numerous hot springs are said to exist within or near the boundary of this tuppeh. I did not visit any of them, but the following names and sites were given to me by an intelligent Sonthal at Koomūrabad, *viz.*, four coss south of Noni Haut, in Pergunnah Hendweh, in the Bhoorburi Nullah, near the village of Maharū, is a hot spring.

Another exists five coss west of Koomūrabad, at Noonbhil.

Another, quarter of a coss west of Koomūrabad, at Hatbullia, in a ravine.

Another, on the banks of the Sidh nullah, five coss south of Koomūrabad, in the district of Beerbhoom, where coal is also procured.

THE RAJMAHAL HILLS, OR DAMIN-I-KOH.*

The extensive and hitherto unexplored tract of hilly country, extending from the banks of the Ganges at Sikree Gullee in latitude 26° 10′ north, and 87° 50′ east longitude, to the boundary of the district of Birabhúm, a distance of seventy miles, and known as the Rajmahal Hills, forms the most north-easterly shoulder or portion of the Vindhya mountains; which range, extending from near the mouths of the Nerbudda and Taptee Rivers in Candeish in longitude 73° 30′ and latitude 21°, and after having travelled eight hundred and fifty miles in an east-north-east direction, or quite across India to Sikree Gullee here turns to the south, passes through the districts of Birabhúm, Burdwan, Midnapoor, and Cuttack, and eventually merges into the ghats or mountains running parallel to the Coromandel Coast.

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* This account of the Rajmahal Hills appeared in No. VII. of the *Asiatic Society's Journal* for 1851.

	Acres	*R.*	*P.*		*Sqr. miles.*
The Damin-i-koh has been transferred to Sonthal Pergunnahs. *Vide* page 1. Area	874,247	0	0	=	1,366·01

Although every European proceeding up the Ganges passes immediately under these hills, and although they are only two miles removed from the banks of the river, the hills and their contained valleys are not only unexplored, but it is not even generally known that the hills are inhabited; the general received opinion being that the Rajmahal Hills are an uninhabited jungle: that such is not the case, I hope to show, having penetrated into almost every valley and climbed all the principal hills during the progress of the survey under my charge.

The hills are inhabited by two distinct races: the mountaineers, or a race living on the summits of the hills, and who are, with rare exceptions, never found residing in the valleys; and the Sonthals, who reside in the valleys. Both these races have distinct languages, neither of which are understood by the Hindustáni man, nor are the two languages understood by the two races.

The Sonthals are interlopers, as will be explained hereafter; the hill-men are the original inhabitants, whose history may be summed up as follows:—

From the days of the Mahomedan kings to 1764, A.D., these hill people were the scourge and terror of the neighbouring districts, from whose inhabitants they levied blackmail; and when that could not be obtained, armed bands, fully equipped with powerful bamboo bows and poisoned arrows, descended from the hills, murdered all who opposed their progress: they pillaged the country far and near, carrying away grain, salt, tobacco, money, cattle, and goats, or, indeed, anything they could lay their hands upon, and, retreating to their jungly fastnesses, where no one dared follow them, defied their victims.

Cases have been known where the zemindars of the plains have, for the sake of inflicting an injury on a neighbouring zemindar, with whom they have been on bad terms, invited the hill-men to descend from their hills and plunder his land and crops; the inviting zemindar offering the hill-men a free and safe passage through the plains as far as the spot to be ravaged; but several cases of treachery on the part of the inviting zemindars, ending in the death of more than one hill chief, at last broke off all connexion with, and destroyed all confidence between the hill-men and the zemindars.

This unsatisfactory state of affairs lasted for some years after the British Government had taken charge of Bengal and Behar; and as the constant descents of the hill-men threaten to annihilate the ryots in the neighbourhood of the hills, and as no boats could moor on the southern bank of the Ganges without being robbed, and as the dâk runners conveying the mail between Calcutta and Benares were constantly murdered at the foot of the hills, and the wallets robbed of their contents,—for in those days the only high road to Benares from Calcutta passed through Rajmahal, Sikree Gullee, and Teeleeagurhee,—Government at last tried what force would do. Troops were sent against the hill-men, but with a very doubtful success; the jungles on the hills being exceedingly dense. There being no roads, no supplies, and no chance of the hill-men coming to an open fight, no impression could be made upon them. The Mahomedans, before the English, had tried the same plan, but failed; the hill-men from their thick jungle cover, invariably shooting down with their poisoned arrows the accoutred and hampered soldiers, who had quite enough to do in threading their way over the narrow, steep, and stony footpaths; and as every wound inflicted by their terrible arrows was fatal, both the Mahomedan kings and the British generals found it a hopeless case attempting to coerce these people.

The Mahomedans, after several failures in the hills, left the hill-men to themselves, punishing them only when caught in the plains; but the English tried another and a more effectual plan,—a plan that seldom fails to win the most savage heart, and that plan was kindness. Captains Brooke and Browne, who had hitherto been their destroyers, now tried

what kindness would effect. The hill-men had by this time seen how useless it was trying to carry on their old system of plundering the low-landers; for whenever they were seen in the plains, they were immediately chased and shot by our troops. These two officers invited the chiefs and their dependents, male and female, to descend from their hills: whoever attended was feasted, presented with a turban, money, beads, or some trifling gifts. When the hill-men were by these acts of kindness in a measure tamed, a Mr. Cleveland, a young man in the Civil Service, then stationed at Bhaugulpoor, was deputed to try what he could do with these turbulent and troublesome people. After a few years' intercourse with these people, amongst whom Mr. Cleveland went unarmed and almost unattended, and after much patience, and by distributing presents and giving feasts to hundreds of the hill-men at a time, and by setting small yearly pensions on all the principal chiefs, they relented, gradually gave up their thieving habits, and eventually became the honorary guides of the post and road lying at the foot of the hills, friends with neighbouring zemindars, and well-wishers of a Government that had treated them with so much kindness. Mr. Cleveland subsequently raised a regiment of archers from amongst their numbers, who were eventually entrusted with fire-arms, and are now, in 1851, as fine a body of soldiers as any in the regular army: thus Mr. Cleveland, as the epitaph on his tomb records—

"Without bloodshed or the terrors of authority, employing only the means of conciliation, confidence, and benevolence, attempted and accomplished the entire subjection of the lawless and savage inhabitants of the jungleeterry of Rajmahal, who had long infested the neighbouring lands by their predatory incursions, inspired them with a taste of the arts of civilized life, and attached them to the British Government by a conquest over their minds,—the most permanent, as the most rational mode of dominion."

The tomb whence this epitaph is copied was erected to the memory of Mr. Cleveland at Bhaugulpoor by order of the Governor-General and Council of Bengal, in honor of his character, and for an example to others, and bears date 1784.

As disputes from time to time still occasionally occurred between the hill-men and the zemindars at the foot of the hills, relative to their proper boundaries, and the right of grazing, cutting wood, and other matters, Government, in the year 1832, deputed Mr. John Petty Ward, of the Civil Service, in company with Captain Tanner as Surveyor, to demarcate a boundary that should secure to the hill-men the undisputed possession of their hilly tract, and effectually separate them from the low-landers: this, after an immense deal of labor,—for the whole of the boundary demarcated, and which measures two hundred and ninety-five miles in circumference, was entirely through heavy jungle,—was accomplished and large masonry pillars erected at convenient distances; thus enclosing, with the exception of a few outlying hills to the south, the whole of the Rajmahal Hills. All lands within the pillars was claimed by Government, and by Government given over to the hill-men to be held by them as long as they behaved themselves in an orderly manner; all without the hills belongs to the various pergunnahs of the District Bhaugulpoor, bordering upon the hills.

All land within the pillars *bonâ fide* occupied by the hill-men pays no rent or tax to Government; but as the hill-men cannot be induced to cultivate the valleys, nor the extensive tract of level land lying outside the hills, but within the masonry pillars and named the Damin-i-koh, or skirt of the hills, Government permitted a wandering race of people, named Sonthals, whose country extends from Cuttack across Mánbhúm, Chotá-Nágpur, Házáribágh, Palámow, to Rewáh, to locate themselves upon the land repudiated by the hill-men, paying at the same time a light land-tax for the ground so occupied.

In process of time these Sonthals increased in numbers, both by births and immigration, until their numbers became so numerous, and the land that was being cleared of forest and that had been cleared so extensive, that Government appointed Mr. James Pontet, of the

uncovenanted Civil Service, Superintendent of the whole of the hills, under the title of "Superintendent of the Damin-i-koh," with power to guard the interest of Government by making favorable land settlements with the Sonthals and to collect the rent.

Mr. Pontet took charge of his duties in 1838; the yearly ground-rent then being two thousand rupees, and the number of Sonthal villages amounting to about forty, with a population of about three thousand souls. But now, in 1851, A. D., only thirteen years after taking charge, Mr. Pontet has, by judicious management, raised the rent to Co.'s rupees 43,918-13-5½, and the number of Sonthals, who have been induced to immigrate into the valleys and into the Damin-i-koh, amounts to 82,795 souls, contained in 1,473 villages, 1,164 of which pay rent and 309 of which are free—the latter not having been under occupation, the three years of grace considerately allowed to each new village to enable it to clear the forest and break up the land previous to its being brought on the rent-roll.

The boundary of the Damin-i-koh, as defined by Mr. Ward, encloses an irregular shaped figure, as it generally follows the shape of the hills; the greatest length from the north to south is seventy miles; the greatest width, which is near the centre of the hills, is thirty miles: whilst to the north and south it is only sixteen miles in width; the area contained within its limits is 1,366·01 square miles, of which about 500 square miles are level ground situated within and without the hills.

Of the level ground, 254 square miles are cleared of forest; 157 square miles of which are under cultivation by the Sonthals, and 97 square miles are lying fallow.

On the summits and sides of the hills about 28 square miles are under cultivation by the hill-men, and the same area is lying fallow: this allowance gives 20 acres of cultivation and 20 acres of fallow to each village, which is the approximately ascertained area.

"The hills," as Dr. Buchanan observes, "are nowhere of sufficient height to reduce the temperature of the air in any considerable degree, and the reflections of the sun's rays from their rocks, and the shelter from the winds that their forests afford, renders the part among the hills hotter than the plains; so that the mountaineers, when in the open country, complain much of cold, and the sepoys of the tribe are uncommonly subject to rheumatism."

In the centre of the hills is a fine level valley 24 miles in length and five in width, full particulars of which are recorded in the Journal at the end of these notes: it is drained by the deep nullah the Morel or Morung, flowing from the north, and another, the Jamúní or Gumáni, flowing from the south; these two nullahs unite in the valley and leave the hills on the eastern boundary.

The Banslui Naddi—a fine broad stream, flowing from west to east,—completely intersects the hills by flowing through the Pachwárá Pass.

The Brahminee nullah forms the southern boundary of the Damin-i-koh. Besides these four streams, there are numerous smaller streams flowing from every ravine and valley, affording an abundance of pure fresh water.

To the natives of the plains the climate of the hills during several months of the year is most fatal, jungle fever carrying them off in a few hours. The bad season commences with the westerly winds in March; the suddenness of the attack is appalling: as long as there is no wind, the healthiness of December, January, and February is prolonged to March; but the first high wind arising in March is the messenger of death to the natives of the plains. I have seen seven of my servants struck down in one

day with fever; the weather had been warm and the air particularly free from agitation; but the day they were taken ill a strong west wind set in and by the evening they had fever.

In the early part of the survey of the hills, and from being ignorant of the dangerous nature of the jungle during the month of March, I lost thirty-four natives of the plains who were engaged in the survey; they all died of jungle fever: many others were attacked but escaped. Out of one party, consisting of eleven men, seven were taken ill and four died within a few days; they were Mahomedans: two horses that were with the party were also taken ill at the same time and died. The months of April, May, and June are also unhealthy for the low-landers, but September and October are deadly.

With very few exceptions, all the natives that recovered from the jungle fever were subsequently sufferers from enlarged spleens.

The hill-men and Sonthals suffer but little from this fever, for when attacked by it, it assumes a much more mild form and is accompanied by ague.

The soil in and around the hills differs widely in different localities; the large central valley and spots outside the hills possess a fine black soil, known as the regur or cotton soil; it is the same soil that is found in the Dekkan, Bundlekund, and in the Sagur and Nerbudda territories. I have seen the soil in all the above-mentioned localities, where it is always found associated with the same rocks as appear in the Rajmahal Hills, *viz.*, basalt and laterite. Besides the cotton soil, light-colored loams, clayey soil, gravelly, and sandy soils also appear.

As on entering the hills the Sonthal is the first class of native that is met with, I proceed to describe him, his manners, and some of his most remarkable customs.

The Sonthal, or low-lander, is a short, well-made, and active man; quiet, inoffensive, and cheerful: he has the thick lips, high cheek-bones, and spread nose of the Bheel, Kole, and other hill tribes of Southern and Central India: he is beardless or nearly so: he is, moreover, an intelligent, obliging, but timid creature; very cowardly towards mankind, but brave when confronted with wild animals. The Sonthal is an industrious cultivator of the soil, and as he is unfettered with caste, he enjoys existence in a far greater degree than does his neighbour, the priest-ridden and caste-crushed Hindu.

The Sonthal eats his buffalo-beef, his kids, poultry, pork, or pigeons; enjoys a hearty carouse, enlivened with the spirit "pachui," and dances with his wives and comrades to express his joy and thankfulness; and when the more substantial good things of life, such as meat and poultry, are scarce, he does not refuse to eat snakes, ants, frogs, and field-rats.

The cow is also eaten by the Sonthal, as well as all other animals, whether slain or those that have died a natural death, or that have been shot or torn by wild animals.

The women are fat and short, and although not pretty according to our European idea of beauty, have a very pleasing expression of countenance, with none of the affected or mock modesty of the Hindu.

The Sonthal is a larger and taller man than the hill-man, and generally stands five feet six inches in height, and weighs about eight stone.

With the exception of the larger villages in the central valley, where all the land is highly cultivated, the Sonthal villages are generally buried in thick jungle, with small cleared patches of ground near the village, bearing crops of rice, junera, (Indian-corn,)

mustard, and several kinds of pulse. The villages are composed of upright log huts, with thatched roofs, arranged so as to form a long street one house deep. Almost to every house is attached a pig-stye, or a dove-cot; and bullock or buffalo-sheds are distributed throughout the village.

The sides of the street are plentifully planted with the sohajna *(hyperanthera morunga)*, whose mutilated branches proclaim the Sonthal's fondness for its pungent alburnum, which is eaten with their food. Their food consists principally of junera *(sorghum vulgare)*, Indian-corn, seasoned with the byre *(ziziphus jujuba)*, chillies, mustard oil, sohajna alburnum, or onions; and accompanied with eggs, poultry, and occasionally swine's flesh, goat or kid; the supply of meat depending principally upon the sacrifices. A large white bean, as well as the petal and legume of the *bauhinea variegata*, are also used as vegetables.

In every village there is a small thatched roof, supported upon one or more wooded posts; the roof gives cover to a small earthern platform raised a foot above the ground; this spot is termed the mangi; at this spot is buried the memory of some former mangi, or village-governor, who, for his good conduct, abilities, or for some other good quality, has been, with the unanimous consent of the villagers, canonized, and the spot named after him; thus at Jhilmili *Bora Mangi* is the name of the village sanctum. At these spots the head-men of the village meet, talk over the affairs of the village, threaten the unruly, punish the guilty, collect the rents, and sometimes make small votive grain offerings to the defunct mangi, which offerings are placed on the ground under the roof. When not occupied by the villagers, the holy spot is generally occupied by pigs, dogs, or cattle.

In some of these mangis, I have seen pots of water fixed on a wooden stand, or depending from the roof; their use or meaning I failed to ascertain.

The working dress of the male Sonthal consists of a mere strip of cloth, not passed round the body, but being fastened to a hair or cotton string, that goes round the loins, it is passed between the legs, thus merely hiding his nakedness: the women, on the contrary, are well clothed with an ample flowing cloth, one end of which is fastened round the waist, the other is passed over the left shoulder, leaving the right shoulder, part of the breast and arm, entirely free, and is allowed to hang down in front. When the women can afford it, they load their limbs with zinc and bell-metal ornaments; the men wear small zinc ear-rings, a few finger rings, and occasionally an iron wrist bangle: both male and female tie their long hair into a knot on the crown of the head.

The religion of the Sonthals consists in prayers, sacrifices, and religious dances, the whole of which are generally performed and attended to by the votaries whilst in a state of intoxication.

The only prayer I have heard of amongst these people, is a supplication to an invisible and powerful spirit for protection from famine and sickness; from disease amongst their cattle; for defence against wild animals, especially the tiger; and that their children may be defended from all dangers, amongst which are enumerated the attacks of wild animals, snake-bites, scorpion-stings, and all kinds of accidents.

This simple prayer points out in a forcible manner the condition of the Sonthal and his wants: he first prays for protection from famine, for as he is an inhabitant of the jungles and generally cut off from all communication with his fellow-men: a failure of his scanty crops would be ruin and starvation to him.

Their plough cattle being the grand instruments by which their crops are insured to them, and as a murrain or a total destruction of these animals would leave the Sonthal in a starving state, his prayers are also directed to their preservation.

That a portion of their supplication should be directed against the attacks of wild animals is not surprising; for the Sonthal, being a denizen of the forest, as before observed, he is himself, as are his cattle, in constant danger from the attacks of tigers, bears, leopards, and wolves; and his crops are also in danger from the ravages committed by wild elephants, buffaloes, monkeys, and deer; and as the Sonthal never manures his land, and as he generally occupies an indifferent soil, a constant change in his abode is necessary, and thus in his onward move he constantly comes in contact with these his great enemies. The Sonthal, however, with a proper spirit, does not supplicate without endeavouring to nelp himself, and no opportunity is allowed to escape of destroying these animals, which is effected with bows and arrows poisoned and not poisoned.

Children being the Sonthals' great pride, comfort and assistance, are not forgotten in their short prayer. Sonthals in general have large families, averaging perhaps eight children to each couple; the male children plough, herd the cattle, reap the harvest, build and repair the family houses, make the carts and ploughs, distil the spirit pachui from rice, and perform all out-door work; whilst the female children husk the junera and rice, express oil from the mustard seed, cook the household food, attend the markets when near one, look after the poultry, pigs, goats, and pigeons; and, when the parents are old and infirm, the children become their support.

Almost all nations on earth, savage or civilized, appear to have an intuitive feeling or knowledge that blood is required to be shed for the propitiation of sins; nor do we find the Sonthal ignorant of the fact, and in order to propitiate the invisible spirit, they freely sacrifice, the buffalo, pig, goat, and poultry, the blood of which animals is sprinkled over the offerings made by the worshippers.

Outside every Sonthal village a spot is set apart for offering up sacrifices, which are made at all times of the year and by any one having a request to make of the invisible spirit. The spot selected is generally a small patch of Sakua jungle that has been spared when the forest was removed from the neighbourhood of the village; in this secluded grove small stones are set up at the foot of the trees and besmeared with red paint, and generally two upright sticks are stuck in the earth, connected by a horizontal one. Under or near this group of sticks the victims are slain with a sword, and the blood sprinkled upon the offerings that have been placed under the bar on the ground by the villagers; the offerings consisting of small conical-shaped leaf bowls or cups, filled with either rice, junera, or Indian-corn, mixed with milk, ghee, spirits or water. The flesh of the victims is eaten by those invited to the feast, which is invariably more or less a scene of debauchery terminating in a wild and most extraordinary dance. A very extensive dance which I witnessed in the hills took place by torch light at midnight during the month of April, at which about five thousand Sonthals were present; these dances are performed both by night and by day; at the present one, about four hundred women danced at the same time.

A lofty stage is erected in an open plain, upon which a few men seat themselves; they appear to act as guides or masters of the ceremony: radiating from this stage, which forms the centre of the dance, are numerous strings composed of from twenty to thirty women, who, holding each other by the waist band, their right shoulder, arm and breast bare, hair highly ornamented with flowers or with bunches of tussur silk dyed red, dance to the maddest and wildest of music drawn from monkey-skin covered drums, pipes, and flutes, and as they dance, their positions are postures which are most absurd,

are guided and prompted by the male musicians, who dance in front of, and facing the women; the musicians throw themselves into indecent and most ludicrous positions, shouting and capering and screaming like madmen, and as they have tall peacock feathers tied round their heads, and are very drunk, the scene is a most extraordinary one. The women chant as they dance, and keep very good time in their dancing by beating their heels on the ground; the whole body of dancers take about one hour to complete the circuit of the central stage, as the progressive motion is considerably retarded by a constant retrogressive one. Relays of fresh women are always at hand to relieve the tired ones.

The men swear by the tiger's skin, but swearing them at all is unpardonable; for the truth is by a Sonthal held sacred, offering in this respect a bright example to their lying neighbours, the Bengalis.

The Sonthals are governed by pergunnites and by mangis chosen by themselves from amongst their numbers; the pergunnite has charge of perhaps twelve villages, from which he collects the rent and makes it over to the Superintendent. The mangi has immediate charge of his own village, and is answerable for all the misdeeds of his brethren, but as they are in general an orderly race of people, their rulers have little more to do than bear their honors and collect the rent.

The Sonthal will take service with no one, he will perform no work except for himself or for his family; and should any attempt be made to coerce him, he flies the country or penetrates into the thickest jungle, where, unknown and unsought, he commences clearing a patch of ground and erecting his log hut.

The preliminary step to a Sonthal's marriage is perhaps as extraordinary a custom a any ever heard of amongst half savages; it is, that during a certain festival named Bandana, which is held in the month of January, and which lasts six days, all the unmarried candidates for matrimony of both sexes are permitted to have promiscuous intercourse with each other during those six days, at the close of which the whole party are supposed to have paired off as man and wife; feasting and drinking according to the ability of each couple, closing the ceremony.

The Sonthals are very expert with the bow and arrow, so expert that nothing with life is to be found near their villages when of any standing. I have seen the bear fall an easy prey to their well-planted arrows, also a hare knocked over when at full speed; birds on the wing I have also seen killed, but with blunt or knobbed arrows. Their bows are either made of Dhamin wood or bamboos, the string is generally made of bamboo or of the fibre of the *bauhinea scandens*: the arrows are made of a light reed, tipped with barbed iron heads and feathered with the brown feather from the peacock's wing.

The hill-man is much shorter than the Sonthal, of a much slighter make, is beardless or nearly so, is not of such a cheerful disposition, nor is he so industrious; his great delight appears to be attending the neighbouring markets, where, decked out with beads and chains, his hair fastidiously combed, oiled, and ornamented, he will, in company with his friends, both male and female, while away the greater part of the day. Labour is the hill-man's abhorrence, but necessity compels him to cultivate a small portion of the land for his actual existence; beyond this trifling labour he never exerts himself. He will nevertheless fish, or hunt or roam over miles of the forest, searching for honeycombs, wild yams, and other edible roots; he will travel many miles to get a shot at a deer or to secure a peacock: such labour he considers in the light of amusement; but to have to clear away the forest for his crop, he consider a great hardship; but clear it he must, and the hill-men generally chooses the most precipitous hill sides as the ground best fitted for his

crops. In these spots an iron shod staff, or a pointed stick hardened by charring, is used instead of the plough. With this implement holes are made in the soil at the distance of a foot or less from each other, into which are dropped a mixture of the following seeds: Indian corn, junera, bora-beans, and the seeds of several small pulses. The tall and robust Indian corn and junera form an ample support to the twining bora-bean, which in its turn affords a beneficial shade to the more delicate pulses at its feet.

The heads of the Indian corn when ripe are stocked in bamboo granaries of various shapes, and which are raised off the ground on posts; whilst those required for immediate use are strung up to the roof of the huts, and as required for food are submitted to the operation of being husked in a wooden mortar; of the meal of this grain a thick and nutritious hasty pudding is made, which forms the principal food of the hill people.

The junera is treated in the same way, but the bora-bean, kam ruhur, and pulses are beaten out, either by rubbing with the hand, or by beating them on a log of wood.

RELIGION OF THE HILL PEOPLE.

For much of the religious history of these people I am indebted to a paper published in the 4th volume of the *Asiatic Researches* by Lieutenant Shaw, and dated A. D. 1792.

The religion of the Rajmahal Hill people consists in the adoration by prayer of an invisible spirit named Bedo Gosain, who made heaven and earth, and who is invoked by several means and through the medium of various gods, visible and invisible; the visible gods being wooden images, stones and trees, to which may be added heaps of bones and skulls of wild animals; sacrifices and numerous vicariously performed ceremonies being the means of invoking Bedo Gosain.

They inculcate that men should be kind to each other, especially to the poor, and that men should labour for their food; that men should not murder, nor punish without cause; that no one should mock or oppress the poor, the lame, the blind, or the unfortunate; adultery and fornication are forbidden; the punishment for disobedience to the commands of Bedo Gosain being either temporal punishment of the souls being condemned to inhabit some portion of the vegetable kingdom for a certain number of years, or to suffer the eternal punishment of being bound and cast into pits filled with fire and maggots.

The self-murderer is expelled from the presence of Bedo Gosain for ever.

The reward for a good life in this world, they believe, will be, that after having enjoyed a short but happy residence with Bedo Gosain in heaven, they will be born a second time on earth of woman, and that they will be exalted to posts of great honor, possessing an abundance of worldly goods.

The above verdicts for good or evil are to be pronounced when judgment is held before Bedo Gosain.

They also believe in angels or messengers both good and evil, and that they are the especial messengers of Bedo Gosain. Their officiating priests or oracles are named demanu; any one fancying the calling appears to take it up, no preparation beyond fasting being requisite to consititute such an official; they foretel events, and threaten the unruly, comfort the afflicted, pray for all, promise blessings to those seeking them, and answer all difficult questions regarding futurity; they kill the sacrifices, regulate the religious dances, feasts, and ceremonies, and, lastly, they exorcise devils and evil sprits.

Marriage.—A man may marry as many wives as he can conveniently manage to support, four wives appearing to be the maximum. A young man having taken a fancy to a young girl of adult age, shows his love for her by an exchange of present, walking with her, giving

her toddy to drink, and by sleeping on the same bedstead with her. Should any indiscretion arise previous to marriage from the young couple sleeping together, they are considered disgraced and are visited with fine. A few presents to the girl's father, a feast, and a sacrifice of a goat or some poultry, complete the matrimonial ceremonies.

A man dying and leaving widows, they are, if agreeable to the arrangement, married to their late husband's younger brothers, or cousins, or to any one else they fancy.

Adultery and fornication on the part of either sex is punishable with fine, and the ill effects effaced by sacrifice and feasting.

Witchcraft and sorcery are firmly believed in, the test, as is usual in almost all countries of the world, being fire. The suspected person being obliged to pass hot irons over his tongue, hands, and feet; and as human flesh must suffer from the contact of red-hot iron, conviction is a matter of course, and gives an opportunity for a sacrifice and the usual accompanying feast.

Upon the birth of a child, the mother keeps to her house for five days, attended upon by her husband; on the fifth day, the child is named by the parents.

The dead are buried.

The men swear by salt.

The whole tribe are without any caste, partaking of all sorts of food, even to the flesh of the cow and swine.

The foregoing introductory remarks were written as explanatory of the following journal of a tour through a portion of the districts of Moorshedabad, Beerbhoom, and the Rajmahal Hills, in the district of Bhaugulpoor :—

12*th December* 1850.—Left the military station Berhampore, situate on the left bank of the Bhaugerutty; direction south-west, eight miles to Gowkurn. Cross the Bhaugerutty a little above the station in ferry-boats. The banks of the river present numerous strata of a grey alluvial soil, alternating with strata of white sand; on the right or western bank saw a stratum of paludina, a fragment of yellow sand-stone and old pottery, five feet below the surface of the country. The sand of the river is freely mixed with silvery and black mica, and tourmaline, but no pebbles; planorbis plentiful on the banks.

The road for six miles is over a deep alluvial soil, lying very low, very damp, and abounding in marshes; the number of birds seen in this low tract, where there is an abundance of insect-life and fish, is very great, consisting of fishing eagles, crows, ravens, paddy-birds, mohoka, golden oriole, snipe, mina, koel, larks, king-fishers of several kinds, amadavats, crested bulbuls, jacanas, sparrow-hawks, peewit, plover, king-crow, hoopoe, brahminee kites, storks, kites, snippets, Pharoah's chickens, whistling teal, grey and black partridge, terns, finch, Pondicherry Vulture, brown vulture, swallow, pagla, wagtail, bee-eater, woodpecker, blue pigeon, kokleet, doves, jay, heron, cormorants, and numerous wild fowls.

At the sixth mile, or at the village of Nowgong, the country rises suddenly and is undulating, the alluvial soil ceases; kunkur (nodular lime stone) and pisiform iron ore become common; the colour of the soil changes as well as the feeling, if not the temperature of the air, which is more dry and bracing than at Berhampoor, nor is the change of soil less remarkable, as yesterday I thrust a walking stick eighteen inches into the Berhampoor alluvial soil, which same stick made no impression to-day upon the hard dry soil of Nowgong. Looking east, the low alluvial tract in which Berhampoor is situated appears about one hundred feet below Nowgong; it is to this low marshy country, which extends from Rajmahal to Nuddya, a

distance of one hundred and twelve miles, that tradition assigns the former bed of the Ganges before the formation of the Podda or the present Ganges below Rajmehal and before the existence of the present Bhaugerutty. This low-land is at present drained by the Jeeoonthee nullah, which falls into the Bhaugerutty a little below Berhampoor.

The principal crops of the alluvial soil are rice and mulberry; the latter is cultivated for the use of the worms which produce the Berhampoor and Cossimbazar silk.

Principal crop of the higher land is rice; principal trees, pipul, burgut, babul, and nim; bamboos are also common.

A square tank at Gowkurn presents a goodly supply of elegant water-plants, scarlet and white lotus, water-creepers, and numerous handsome water-flowers, whose names I am unacquainted with: large ampullaria are common in the tank.

14*th December* 1850.—Direction west, eight miles to Jamukandi, at the second mile cross the Dwarka, a shallow muddy stream flowing easterly from the Rajmahal Hills, stream barely perceptible, one of the numerous branches of the More River, which is one of the drainers of Beerbhoom and southern pergunnahs of Bhaugulpoor; joins the Dwarka at the ferry, its bed was dry and sandy, the sand composed of grey and white quartz and an abundance of schorl from the gneiss and granite formation of Beerbhoom, and also iron ore. The Dwarka is sandless with steep banks of a rich loam, at the foot of which lying scattered about were numerous dead specimens of the pearl-bearing unio and palludina.

The pearl-bearing unios are collected from the jheels and marshes in great numbers; a small proportion only bear pearls, which are of a very good colour and size; a large pair sell for Rs. 250. The shells are burnt for lime.

After crossing the Dwarka, the country is highly cultivated and beautifully wooded; the crops—rice, sugar-cane, linseed, mulberry, and small patches of wheat. At the several villages the chunderkees, or large circular bamboo frames or stands, covered with thousands of yellow silk cocoons, were drying in the sun.

Jamukandi is a large town on the banks of the branch of the More River that falls into the Dwarka and stands on the common boundray of Moorshedabad and Beerbhoom; the town boasts of a very fine and extensive masonry-built bazar, ornamented in a fantastic manner by about fifty figures, painted on boards by native artists, as large as life, representing the dress of English females in the reign of George the Second. There are numerous tanks, brick buildings and gardens, besides numerous groves of cocoanut trees swarming with monkeys.

A quantity of steatite plates, bowls, and dishes were being worked up in the bazar, that are brought in a rough state from the district of Bancoora, situate to the south of the Damuda; coal fields on the granite and syenetic formation.

A quantity of the Morinda tinctoria (al) is grown at this place, it is used for dyeing the karwa or red cloth, used principally in tent-making.

15*th December* 1850.—Direction west, ten miles to Andhi.

After leaving Jamukandi the country rises rapidly all the way to Andhi, which is about eighty feet higher than Jamukandi. The whole country passed through this march was under ripe rice cultivation and mulberry, and moderately wooded.

In the tanks saw ampullaria, limnea, paludina, cerithium, and succinea.

BANKS OF KUNKUR ARE NUMEROUS.

16*th December* 1850.—Direction west, distance ten miles to Synthia, situate on the south or right of the More River. Country still rising, highly cultivated and beautifully wooded with mango groves. Synthia is situated on a high gravel bank, which forms at this spot the eastern boundary of the great iron beds which extend many miles both north, west, and south from this place.

To the north of the village a good section has been effected by the water of the More in the high gravel bank, which affords the following appearance :—On a level with the bed of the river, the bank is composed of a very tough arenaceous conglomerate, composed of pink quartz sand connected with a ferruginous cement, capped by a layer, several feet thick, of a coarse gravel composed of rolled pieces of white and translucent quartz, pisifrom iron ore, and a few pieces of decomposing felspar, the whole firmly embedded in a ferruginous sand which is again covered with nodules of kunkur. The bed of the river is in places quite black with magnetic iron dust which clings in clusters to a magnet.

The More is about half a mile across, with a small but brisk stream of pure water; the southern outliers of the Rajmahal Hills are visible to the north-west, distant twenty-four miles.

In the village I saw large heaps of coal that had been brought by a zemindar from the Ajye River, distant forty miles, to be used for burning bricks.

17*th December* 1850.—Direction west, ten miles to Sooree, the civil station and capital town of the District Beerbhoom. The whole march lay through a highly-cultivated and well-wooded country.

Sooree is a moderate sized native town, situate on an extensive ridge of gravel, composed of quartz, felspar, silvery mica, and a great abundance of pisiform iron ore; the whole lying upon granite, which is seen cropping out from the gravel one mile north of the station.

As far as the eye can see to the north, the country appears composed of long undulating ridges, running east and west, well-wooded and backed by the Rajmahal Hills.

18*th December* 1850.—Direction north-west, eight miles to Naggulia. As before observed, the granite is met with one mile from the station; it has about seventy-five per cent. of felspar in its composition, with translucent quartz and silvery mica. Passed through Ratangarh, a small village on the right bank of the More, but which in Arrowsmith's large map is made to appear on the left bank; at this village I passed under two large kuchla or strychnos nux vomica trees, whose branches were bending under the weight of large clusters of their tempting orange-looking, but deadly poisonous fruit.

Naggulia is situated on the summit of one of the numerous ridges that generally extend throughout the western portion of the district; they are in general from ten to fifteen miles in length, and from thirty to fifty feet in height; the valleys between averaging from the crest of one ridge to the crest of another about five miles in width; the ridges are invariably covered with a forest of sakua trees, a species of shorea, and assan, with naked rocks of quartz, felspar, gneiss, dykes of greenstone, hornstone, occasional actinolite and nodular iron stone, the latter disintegrating, forms the pisiform iron ore so plentifully found spread over the country, and which forms the finest natural roads possible to conceive. Unlike kunkur roads, which are always liable, after continued rain, to run into holes from the pounded lime re-crystallizing, these roads are improved by rain, it being the agent by which the red oxide, which is always forming on the surface of the ore by the absorption of oxygen, is spread over the incoherent particles, which are soon united into a hard mass.

Three miles in an easterly direction form Naggulia, on the left or northern bank of the More River, and opposite the village of Kattanga, and near a village named Tangsuli, is a small bed of sandstone with minute threads of coal and an abundance of bituminous shale, wedged in between gneiss rocks.

Three miles north of Naggulia are two small gneiss hills named Parjore, from the summit of which there is a good view.

Rajmahal Hills, 16*th January* 1851.—Direction west, six miles to Sadipur Buharow. The road is along the right bank of the More River, through sakua jungle and cultivation; passed some fine strychnos and soondree trees; from the latter is obtained a bright red dye, chiefly used in dying wools and silk; the bushes on the banks of the river were laden with abrus precatorius, bearing the pretty red and black bead-like seed. At the second mile crossed the More, a broad river, about five hundred yards in width during the rainy season, but now a wilderness of sand, with a small, but cheerful stream of water.

At Kumardah, on the left bank of the river, about eighty light boats are built during the year; they are then laden with charcoal, and during the rainy season floated down to Cutwa, on the Bhaugerutty; the charcoal is highly remunerative, but the boats merely sell for their prime cost. The presence of steamers on the Ganges and Bhaugerutty have much reduced the number of boats that were formerly built at this place. The wood used in building the boats is sal, which is brought from the plains and hills of Tuppeh Belputtah, a few miles to the north-west of the village; that grown on the hills being considered the hardest and most durable.

Immediately after the first heavy fall of rain in June, and after the dangerous bore called the Hurpa has passed down, immense rafts of small timber, fire-wood, and bamboos are floated down the river towards the Bhaugerutty.

The Hurpa above-mentioned is a huge wave, caused by a sudden fall of rain in the hills, which rushes down the dry bed of the river with a tremendous roar, throwing up in front of itself a cloud of dry sand: natives and cattle are said to be drowned every year by this wave.

Sadipur is situated on the left bank of the More and opposite to the mouth of the Sidh nullah, in the bed of which nullah, and about six miles above its confluence with the More, a bed of coal and a hot spring are reported. I did not visit the spot. The village is immediately under a confused cluster of low and well-wooded and bamboo-clothed gneiss hills. The gneiss is of a very fine grain, with salmon-colored felspar, which imparts to the rock a cheerful and lively colour.

17*th January* 1851.—Direction north, ten miles to Bunprassi. At the commencement of the march entered a dense jungle, a mile in width, under the Kulang Hills, which jungle lies in the beat of a small herd of wild elephants which frequent this part of the country; the herd is said to consist of one male, several females, and their young ones. These animals create much alarm in the villages lying along their beat, many of which have been lately deserted on account of the total destruction of the rice fields, and in some instances of the huts of the Sonthals, which being probably covered with leguminous or cucurbitaceous creepers, have tempted the elephants to tear down and devour their tempting and verdant covering.

The whole march, which was across country, lays along the base of the Belputtah Hills, through an undulating country with numerous villages, much cultivation, and no jungle; a large quantity of mahua (*bassia latifolia*) trees occupy the stony and gravel ridges. The whole country is cut up by ravines, everywhere displaying vertically arranged gneiss,

which in spots is highly contorted; a broad dyke of greenstone, about one hundred yards broad, runs parallel to the hills for six miles, or as far as Prasbuni.

A small range of sandstone hills, named Ramgarh, two or three miles to the east of Prasbuni, appear well-wooded, and in spots cleared for cultivation by the hill-men residing on their summits. Towards the centre of the range, a soft greasy white rock is quarried and exported to Calcutta, Moorshedabad, and to other places, where it is used for white washing, writing on wooden boards by school-boys, or for ornamenting pottery and toys.

18*th January* 1851.—Direction north-west, to Jhilmillee, on the left bank of the Brahminee River: ten miles. Passed through the same sort of country as yesterday, except that upon nearing Pudma, the ground becomes much more broken up by ravines, greenstone dykes and gneiss rocks; the mahua trees still giving the landscape a parklike appearance. Passed through several Sonthal villages, in each of which were a profusion of poultry, pigs, buffalos, cattle, and pigeons; small patches of tobacco and large fields of mustard. Tall castor oil plants surrounded the log huts, which are thatched with rice straw.

The Sonthal women, wherever they have an opportunity, pay great respect to the elephant. I have seen them place their young children on the footsteps of the animal, whilst they themselves bowed down to the ground, touching the earth with their foreheads. At a village I passed yesterday, the women in a large body stopped a very fine and large male elephant that was carrying my tents, and insisted upon rendering him all due honor, which they did with much noise and laughter, smearing his noble forehead with vermillion and oil.

From Kurma Tand there is a fine view of the Debragpur range of carboniferous hills to the north, and lying within the Damin-i-koh boundary.

From Kurma Tand the descent to the Brahminee River is very rapid, being about a hundred feet in a couple of miles: large masses of a fine-grained gneiss protrude from an iron bound soil.

Crossed the Brahminee River, a small stream about one hundred-and-twenty feet broad, of which only twelve feet was occupied by water, the rest being sand. This river forms the southern boundary to the Damin-i-koh, on the left bank at the ghaut or ford of which stands a small log bungalow erected by Mr. Pontet, who has charge of the Rajmahal Hills.

From Jhilmillee, which is a fine Sonthal village, proceeded eastward for six miles to visit the Domanpur coal beds, which are exposed in the bed of the Brahminee River. The following is a roughly-estimated section of the bed on the northern or left bank of the river:—

	Feet.	Inches.
Red earth	24	0
Stratum of concentric iron ore	1	0
Grey clay, which is licked by the cattle	2	6
Soft grey sandstone	1	0
Good coal	2	6
Purple, blue, and waved shale with nests of iron ore	4	0

The jungle in the vicinity of the coal consists principally of terminalias, such as asan, bahira, and iburra, all of which are burnt for charcoal by the iron smelters belonging to Belputta, who live within sight of the coal, but who cannot be induced to use it, being afraid, as they say, of the "Boot," or demons of the forests.

19th January 1851.—Direction north, four miles to Katikund. The tract of land passed over is partly cultivated, here and there cut up by ravines, but is well populated, being studded with Sonthal villages; besides small patches of asan jungle.

This tract of land, bordered by the Brahminee River to the south and west, and by the Iru nullah to the north and east, and containing twenty-five square miles, is claimed by Sumar Sing, a stipendiary hill chief, residing at Gango, under the Singhi Math Hill, in Tuppeh Belputtah; he receives ten rupees from Government per mensem although residing outside the Damin boundary.

It appears that all the pergunnahs lying contiguous to the hills have lost land, by Goverment having included the hills within a boundary as pointed out by the zemindars in 1832, at which period all the land lying immediately under the hills, as well as a portion of the outer hills, which in reality did belong to the zemindars and not to the hill-men, were covered with an almost impenetrable jungle, and little imagining that the land could, or ever would, be cleared, were careless in defining their boundaries. The Damin-i-koh boundary, after a great deal of trouble, was settled; the Sonthals from the south were admitted, before whose axes the forest disappeared in a few years; the wild beasts that had been the terror of these hitherto unexplored wilds, were soon destroyed by the arrows of the omnivorous Sonthal; the land was sown, and being a virgin soil, yielded large returns; the zemindars, seeing these facts before their eyes, and seeing themselves fairly ousted from their own land, nevertheless by their own consent, for each zemindar on the boundary signed an agreement as to the correctness of the 1832 boundary, are now beginning to repent of their hastiness in having signed away their land, and are endeavoring to recover what can never be theirs again. That the land did belong to the zemindars, there is no doubt, as large masses of the hills are still known by the names of the neighbouring pergunnahs; and Pergunnah Sultanabad, lying on the east of the hills, has acknowledged land about five thousand acres, lying on the western side of the hills; and the valley known as the Pachwara Pass, and now entirely occupied by Sonthals, in former days connected the parent pergunnah with its now detached bantling.

Katikund is situated upon high ground, a few hundred yards from the Iru Nuddy; several Bengali grain-dealers live in the village, who buy mustard seed and rice from the Sonthals, but for a price far below its true value; the grain is exported to Sooree.

Near Mr. Pontet's bungalow at Katikund, are several heaps of carved stones, the remains of an ancient temple; the stones have been brought from the neighbouring northern hills, distant about three miles, and are of a coarse red sandstone, embedding masses of glossy quartz. The sculptures represent what I imagine to be the naked priests or Digambar of the Jains; the carvings are of the rudest workmanship and are very numerous. The carved stones are arranged so as to form two hollow squares of about twelve feet square, and a few feet apart, both of which are covered with thatched roofs and surmounted by Shiva's trident. The Bengalis have established a Brahman to take charge of these groups, which, together with several Lingams, have been dedicated to Shiva, and are well smeared with ghee and vermillion. The stones have been originally held together with metal clamps, as the mortises at their angles show; but no trace of the metal appears.

The stone kallas or series of circles for the summit of the temple are well carved, resembling huge cog-wheels, and are of the same style as those found amongst the rude and ancient ruins on the Mundar Hill, in Bhaugulpoor, on the Kowa Dhole of Behar, and that are so plentifully distributed throughout all the hills of that zillah.

The remains of this temple is the only piece of antiquity in this neighbourhood; and natives of these parts affirm that in former days this was a populous and well-cultivated

country; that it then became overrun with jungle and was deserted; and that it was only beginning to be again populated, cleared, and cultivated.

Of the truth or probability of such a change having taken place, we have no reason to doubt; for every one who has travelled in India must have seen temples, caves, and forts, which must have cost much time, labor, and expense in their construction, and which, in their arrangement and high finish, show an amount of intelligence and industry quite wonderful, now given up to the wild hill tribes, or buried in deep jungles.

20th January 1851.—Direction north-west, fourteen miles to Kendweh, on the western side of the hills, and at the entrance of the Pachwara Pass or Valley. The country passed over to-day undulates considerably, and is much broken by ravines; a good road has been cut by Mr. Pontet, mostly through a stiff brick-red soil; crossed several streams, all with rocky bottoms, each affording good sections of the country, which is composed of gneiss of great beauty, especially that in the Gumra Nuddy. Passed to the west of the Dhannia Hill, at the foot of which, near a village named Undhasol, is a collection of carved stones, similar to those at Katikund, and evidently from the same ruined temple. Two miles north-east of the Dhannia Hill, in the Gumra Nuddy, are beds of coal discovered by Mr. Pontet in 1846; two miles north of the same hill, and near the Nargunge bungalow, and in the same nullah, are other beds of coal, also discovered by Mr. Pontet in 1840.

The view of the Mahuagarhi range of sandstone hills to the right of the road is particularly fine; the height above the sea of the trigonometrical point on the summit of the western peak is about 1,500 feet.

From Gowrapahar village, at the foot of Mahuagarhi, and whence there is an extensive view of the plains of the Bhaugulpoor, of the Mundar and Noony Hills, the descent to Kendweh is very sudden.

Three miles in an easterly direction from the Kendweh bungalow, at the village of Burgo, on the banks of the Banshie Nuddy, there is a bed of coal lying upon gneiss.

21st January 1851.—Direction north, twelve miles to Burwa. The road is over very broken and raviney ground; numerous running streams flowing from the hills and a good deal of jungle, the principal trees of which were asun, agye, dhamin, and dhow; crossed the Banhie River, which flows westward through the Pachwara Pass. The road travelled over to-day was cut by Mr. Pontet, and passes through numerous Sonthal villages, around which were fine sheets of cultivation, comprising mustard, gram, cotton, and junera, the latter cut and stacked. The views along this march are particulary pleasing, especially near the Bokraban Bunglow, which stands on the banks of a small hill stream, and buried in a dense jungle, in which I observed some very fine sal and semul trees. The numerous pure and gushing hill streams met with on this march have a most pleasing effect upon the Indian traveller, who is generally doomed to dry water-courses and drier roads.

The village of Burwa, where I halted, is under a small gneiss hillock, which, together with its small patches of cultivation, are buried in a pretty forest.

Observing a tuft of straw tied to a tree in the jungle, I inquired of the manji the meaning or use of it; he informed me that whenever a Sonthal is desirous of protecting a patch of jungle from the axes of the villagers, or a patch of grass from being grazed over, or a newly-sown field from being trespassed upon, he erects a bamboo in his patch of grass or field, to which is affixed a tuft of straw, or in the case of jungle, some prominent and lofty tree has the same prohibitory mark attached, which mark is well understood and strictly observed by all parties interested.

On my arrival at the village, the whole female population came out with their families to see the elephants and white faces. Amongst the party of lookers-on was a very pretty young Sonthal girl; she did not belong to this place, but had just arrived on a visit from her own village; and as she recognised many of her old friends, she saluted them in the following manner. Running up to her newly discovered friend, she threw herself down on her knees and laid her head upon the feet of the saluted, who in return stooped down, and, spreading her two hands over the kneeling girl, carried them, with the tips of her fingers turned in towards the palm of the hand, to her own head, where she held them until the pretty visitor rose from her kneeling position, when they immediately commenced talking, examining each other's bracelets, hair-combs, and other ornaments. This graceful salutation was repeated to each female acquaintance in rapid succession. Upon my attempting to sketch a few faces, the whole party decamped. The knowledge of the dislike of the Sonthal to have his face drawn, I subsequently turned to a good account, as I was always able at any given moment to disperse a crowd that had become troublesome by merely producing a sketch book and pencil; the hill-men and women, on the contrary, will, upon being asked, throw off their clothes, sit or stand in any posture to have their likenesses taken.

In the afternoon I entered a thick forest of asan and chironji at the base of the Tatukpara hill. Half an hour's sharp climbing by a steep foot-path brought me to the summit of the hill; the hill village of Tatukpara, which the year before had stood on the summit of the hill, had, consequent upon the death of a villager, been removed half way down into the valley. From the old site there is a capital view to the eastward of a fine cultivated valley, which has been occupied and cleared by Sonthals; this valley is backed by a range of hills studded in every direction with hill villages, the sides and tops of the hills cleared and occupied by large sheets of cultivation, cleared by the indefatigable hill-men, and cleared in spots where it is barely possible to walk, as I had good proof in returning to my tents down by another road. From Tatukpara I counted thirty hill villages, perched either on the summits or on the slopes of the hills; whilst the villages of the bashful and quiet Sonthals were seen far down in the secluded valleys. On this hill there is a fine collection of trees of a very large growth, the principal of which are mango, fan-leaf palm, tamarind, kurm, pipul, al or moringa, asan and chironji; of crops there were the remains of tobacco, Indian-corn, junera, bora bean, and kahar dal; the level ground had been ploughed.

The road up the hill was over compact basalt and masses of iron stone overlying gneiss; a mile to the north, the descent from the hill was over sandstone overlying basalt, the sandstone appearing as a small precipice in the middle of a field, or cleared space on the hill side; the rock is of a pale colour, nearly white, and of a very fine texture. The basalt, which forms a great portion of the southern and central hills, appears to have intruded in upon, and to have much disturbed the sandstone and coal beds. The field above alluded to was one of the numerous cleared hill sides on which the hill-men produce as good crops as their low-land neighbours; it was so very steep, that no one of the party could descend without holding on by the stumps of trees or by the long kirbee stalks grass, or rocks; any loose stone removed from its place, rolled to the bottom of the hill.

From the forest at the foot of the hill large quantities of the pecar or pecal, the delicious little fruit of the chironji sapida, are collected by the Sonthals and sold to the buniahs of the plains. The fruit, which is dried as a raisin and considered by the rich natives as a great delicacy, sells for eight annas the seer in the Behar and Bhaugulpoor districts; but the buniahs only give the Sonthal weight for weight in rice for this expensive luxury. A seer of pecar is worth eight annas, a seer of rice is worth one pice; so that only one thirty-second portion of its true value is given to the Sonthal.

22nd January 1851.—Direction, north. Passed a bungalow at Chundna at the second mile, and from thence struck in under the hills through a series of wild jungly ravines, and amongst gneiss hillocks and over greenstone dykes to Sundari Kulan, a fine large Sonthal village, situate close under the hills, and surrounded by sheets of mustard cultivation. The village is about one mile in length, being one long street one house deep, with about one hundred family enclosures, each enclosure occupying from four to five log-wood houses. These enclosures are made with the green boughs of the sakua; planted in the ground and tied together, they keep each family distinct from its neighbours. They generally contain a Sonthal and his wife, several married children and their families, a pig-stye, buffalo-shed and a dovecot; a wooden stand holds the water-pots, the water from which is used for drinking or cooking. There is also a rude wooden press for expressing oil from the mustard seed. In a corner of the yard there will probably be a plough, or a couple of solid wheeled carts; whilst numbers of pigs and poultry are seen in every direction. Each of these enclosures contained on an average ten souls, thus giving a population of one thousand to Sundari.

The street is planted on each side with the pungent sohajna, which tree is a great favorite with the Sonthal.

The numerous pig-styes, and great abundance of poultry in the village proclaim the absence of caste amongst this free and unshackled and un-priest-ridden tribe.

Close to my tent I witnessed a sample of their religion, as connected with their harvest rejoicings; it was a wild and extraordinary proceeding, and was as follows. Two men with dishevelled hair, and with their heads hanging down, as if in the attitude of deep thought, sat under a small shed a few hundred yards from the village; a drummer was beating furiously upon a Sonthal kettle-drum, who gave an extra thump on his instrument as occasional offerings of grain in small leaf bowls were presented by various Sonthals from the village, to a small stone erected in front of the shed. When the number of offerings had reached to about fifty, the two men under the shed, whom I now perceived were shaking as if possessed with a violet ague, commenced shrieking in a horrid manner. Several Sonthals immediately rushed forward and commenced asking the shaking men numerous questions, which were sometimes answered by words, but oftener by loud screams. A favorable crisis appeared to have arrived at last, as both the men, springing up from the ground, with the most demoniacal yells and fearful bodily contortions, led out a small black male kid, whose head, at one stroke of a sword, one of the mad or possessed men severed from its body. Before the body could fall to the ground, the second screamer, who held the string that was tied round the kid's neck, rushed forward and caught it in his arms; lifting it off the ground with his left hand, he grasped the neck with the right hand, so as to check the flow of blood from the several arteries. He then walked up to the small leaf dishes containing the offerings, withdrew his right hand, and from the spouting arteries filled as many of the cups as the flow of blood would permit; the body and limbs of the kid writhing and kicking convulsively a great portion of the time.

Having finished this disgusting scene, a question was again put by the mangi of the village to the sacrificer, as to whether the deity was pleased, and whether he was ready for the dance; the answer was in the affirmative: upon which one of the possessed men had a green bamboo placed in his two hands, which were raised high in the air over his head, and the word being given by the mangi to go and call out the villagers to drink and dance in honor of their deity, the man tore away at a furious pace, his hands over his head, screaming in a most horrid manner. The villagers received the summons and repaired, male and female, to join in the dance, which took place at the place of sacrifice.

I subsequently ascertained that the shaking fits betokened excessive thought or contemplation, and that men fast for two, three, and even for ten days, to bring themselves into a state of half wildness, during which period they are supposed to answer any questions put to them, not through their own power or by their own knowledge, but through the power of the deity possessing them, which in this case appears to have been the spirit of Bora Mangi, a deceased and canonized mangi, and formerly a chief amongst them.

Towards evening I re-visited the dance and found the whole party very drunk I was asked for money for more drink, which I threw to them from my elephant.]

In the evening I crossed the Jumoonee nullah, a deep hill stream, which has cut its bed through contorted gneiss, and ascended the basaltic hill, on which is situate the hill village Jola. The view to the north and east is very beautiful, every hill appearing capped by a village surrounded by fine mango and fan-leaf palm trees; much jungle has been cleared away from all the hill sides for the cultivation of junera and Indian-corn.

In the village of Jola I had much difficulty in making any of the women, who seldom understand or speak Hindustáni, comprehend what we wanted; the men were all out, either hunting, cutting timber, fishing, or attending the markets. After having examined the interior of several houses, a young man at last appeared, to whom were presented a few trifles, such as German snuff boxes, needles, thread, buttons, beads, bodkins, and, lastly, a dram of brandy; this last gift opened his heart and set loose his tongue. Presents were then distributed to the women, who now flocked in numbers to the spot where I stood; the presents consisting of bead necklaces, needles, and sewing cotton for the women, and bright metal buttons of all kinds of gaudy patterns for the children. The young man, at my request, showed me the interior of his house, and introduced me to his wife, who was busy, cooking in the centre of the one room which constitutes the entire house. The hill houses in general are very neat, being composed of either matting, hurdle, or thin sticks, sometimes smeared with mud to keep out the wind; the whole supported by stout timbers, upon which rests a lofty hog-backed roof with very low eaves. The doors are in the gables, and are protected by verandahs; the roofs are pitched at a singularly obtuse angle, giving great width to the house. The rafters of the present house were covered with heads of Indian-corn, junera, and beans; against one of the mat-walls hung a pair of small antlers with four tynes each, serving as brackets for holding bows and arrows, and a few other light articles. A large drum hung in one corner, a fire was burning in the centre of the room, the smoke from which had blackened every rafter, beam, and bamboo in the house; across the hut was slung a grass hammock, in which the hill people sleep during the rainy and hot seasons; the hammock was twelve feet in length, six feet in width when opened, and was netted, each mesh being a foot in length. I examined the fabric and found it to consist of the fibre of the bauhinea scandens—a small fishing net and creel hung in another corner, for the hill-men descend the hills and fish in the small torrents, but they never capture any thing larger than a moderate-sized minnow.

One old woman, I observed, was afflicted with an enormous goitre.

23*rd January* 1851.—Direction, north-east; eight miles to Dhumaturi, where there is a bungalow.

Upon leaving Sundari, entered a thick jungle of asan, and crossed the Gumani or Jumoonee by a difficult and steep ghaut; the elephants were obliged to break their way through the jungle, there being no road; skirted some low gneiss hills through a small village named Manikbaithan to the banks of the Jumoonee, which nullah, we had to cross again; but finding no possibility of getting out of the bed of the nullah after having with great difficulty got down into it, I travelled down the stream for a short distance, and on the left bank discovered a bed of slaty coal with its associated shales and sandstones; one mile further north of

this spot, and under the Chuperbhita Hill, I found three more beds of coal, both on the right and left banks of the nullah—one bed is a few hundred yards from a spirit shop on Mr. Pontet's new road, leading into the hills through the Dhumaturi or Chuperbhita Pass, and where the Domra nullah falls into the Jumoonee. The best burning coal was that first found; that found immediately to the west of a small Sonthal village named Morjor is also good.

The existence of this coal has hitherto been unknown, and as the beds are situated in the Chuperbhita Pass, and under the hill of the same name, I propose to call them the Chuperbhita coal fields. There is little doubt that this coal is but a continuation of the Burgo, Dubrajpoor, and Harra coal beds, which produce a slaty inferior mineral.

A heap of the coal and shale, the latter highly bituminous, weighing about thirty pounds, burnt with a cheerful flame for three hours in the open air; the coal resolved itself into a fine white ash; the shale, of course, remained unchanged in shape.

All the beds dip to the north-east at a considerable angle, but at one of the beds I noticed the shale and sandstone so disturbed, that the strata formed a saddle; the anticlinal line running east and west; the disturbing agent does not appear, but is very probably the neighbouring basalt.

The following section was observed at this spot on the bank of the stream—

Red earth	12 feet.
Black bituminous shale alternating with a coarse white sandstone embedding masses of waterworn quartz	12 do.

Direction of strata, east and west.

The village of Dhamini is surrounded on three sides by flat-topped hills, which are thickly covered with hill villages. To the east is the commencement of the great central valley, whose bounding hills to the east are seen five miles distant.

Some very fine sal trees have been preserved by Mr. Pontet near the bungalow, whose grand proportions give an idea of what the forest must have been before the advent of the Sonthals.

In the forest at the foot of the Chuperbhita Hill, I saw some very fine and large specimens of the mimosa siris.

During the march, passed over several extensive kunkur (nodular limestone) beds lying upon the almost naked gneiss rocks.

24*th January* 1851.—Direction, north-east to Burhyte. At starting entered a small patch of asan jungle; at the second mile, crossed a small hill torrent, in the bed which a small fragment of a basaltic column was found. The road the whole march was over compact basalt, occasionally decomposing into spherical masses, each with a hard ferruginous nucleus. The soil at the fourth mile becomes darker, and at Burhyte it is the regur or cotton soil of the Dekkan. Passed through several fine Sonthal villages, namely, Kusmah on the banks of the Jumoonee, which stands at the ford; Kadmah, Gopladih, Hindoadih and Sonajori.

Burhyte, the capital town of the hills, is a substantial Sonthal village, with a large population, and about fifty families of Bengali traders; there is a good bazaar, and two markets are held during the week. There is also a tank, and Mr. Pontet has planted a plot of ground with potatoes.

Burhyte is situated in the centre of the great valley which extends twenty-four miles north and south, with an average width of five mile, and is surrounded on every side by hills, through which there are several narrow passes leading into the plains; one pass is to the south-west, the Chuperbhita Pass; the second is the Mujhwa or Murcha Ghaut, to the north-west, or that leading to Bhaugulpoor; and one, the Ghatiari Pass, to the immediate east of Burhyte, leading to Rajmahal and Junipoor through Kankjole; and a fourth pass to the south-east, or the Murgo Ghaut, leading through Umbar to Junipoor; and a fifth to the north-east, leading over the hills to Rajmahal; besides these five regular passes, through all of which Mr. Pontet has cut good carriage roads, there are numerous foot-paths leading over and along the hills.

From Burhyte, large quantities of rice, bora beans (*dolichos catjang*), Indian-corn, mustard, and several oil seeds are conveyed away in carts by Bengalis to Jangipoor, on the Bhaugerutty; and in return for these grains, the Sonthals are paid in money, salt, tobacco, beads, or cloth. The soil around Burhyte is the deep black cotton soil, producing luxuriant crops of rice, Indian-corn, junera, beans, koorthee, tobacco, gram, and mustard.

The united waters of the Jumoonee flowing from the south, the Morel or Morang flowing from the northern portion of the valley, as far as to the very neighbourhood of the Motijharna Hill, overhanging the Ganges at Sikree Gullee, meet at Burhyte, and with a sudden turn to the east leave the hills by the Ghatiari Pass, under the name of the Jumoonee nullah; which, flowing through Kankjole, falls into the Ganges near Farru-ká-thánáh.

The beds of the streams flowing through the valley are of great depth, perhaps thirty feet, but are nevertheless liable to be filled to overflowing, as was the case in 1845, when the Morel overflowed its banks, swamped the whole of the northern portion of the valley, drowning about five hundred head of cattle and forty Sonthals. These floods only occur when very heavy rain falls in the northern hills, and are periodical, happening about once in five years.

This valley, viewed from any of the surrounding hills, affords an admirable example of what can be done with natives when their natural industry and perseverance are guarded and encouraged by kindness. When Mr. Pontet took charge of the hills in 1835, this valley was a wilderness, inhabited here and there by hill-men; the remainder was overrun with heavy forest, in which wild elephants and tigers were numerous. But now, in 1851, several hundred substantial Sonthal villages, with an abundance of cattle, and surrounded by luxuriant crops, occupy the hitherto neglected spot; the hill-men have, with a few exceptions, retired to the hills, being either unwilling to be near the Sonthal, whom the hill-men despises, or, courting that privacy they could not enjoy in a cultivated plain, have yielded up the fertile plain to their more industrious and energetic neighbours.

The smaller valleys leading out of the main or large valley still afford abundant pasturage to large droves of buffaloes that are driven in from the plains of Bhaugulpoor, the zemindars paying the Sonthals five rupees per hundred head of cattle, for the right of depasturing the jungle from the month of December to April.

I met Mr. Pontet this day at Burhyte, and in his company attended the Friday market that was established by him a few years ago. The amount of grain, the produce of the valley, exposed for sale was very great; numerous carts from Jangipoor, on the Bhaugerutty, were in attendance to convey it away towards Moorshedabad, and eventually to Calcutta, from whence much of the mustard that is grown in these hills is exported to England.

Besides grain of various kinds, there was a fair display of sugar-cane; salt, lac, dammer or rosin, brass pots and bangles, beads, tobacco, sugar, vegetables, chillies, tamarinds, and spices; potatoes, onions, ginger, cotton, thread, and cloth, the latter in great abundance.

Two miles north of the village, and extending for a mile east and west, and immediately under a range of basaltic hills, is a bed of chalcedony, agate balls, cornelian, and quartz crystals. The agate and chalcedony affect the hollow globular form, which globes, upon being broken open, display the quartz crystals pointing inwards. Some of the crystals are of great beauty, resembling amethysts, being of a bright violent colour, probably owing to the presence of one of the oxides of manganese. The crystals vary in size from those of a microscopic fineness to several inches in length, and of a corresponding thickness.

The Sonthals have ploughed in amongst this curious collection of natural gems, any one of which would be an ornament to a geologist's cabinet; many of the globes have been fractured, displaying in the sunshine a brilliant assemblage of sparkling crystals.

The agate balls are of all sizes, some only a few ounces in weight, whilst others weigh several hundred pounds.

At the village of Khurwa, and underlying this bed of agates, is a bed of wacke, enclosing small balls of chalcedony and stilbite; the wacke passes into a very beautiful clinkstone of a homogeneous texture of a pale salmon or dove colour, rings under the hammer, is easily broken, and fracture highly conchoidal; it is found in large slabs six and eight feet in length, also in small parallelograms and wedge-like splinters. If this stone could be found in any quantity it would be a highly valuable discovery, as from its natural fracture or stratification, the stone would be highly prized for many domestic purposes.

A quantity of this stone was taken a few years ago to Bhaugulpoor for the purpose of ornamenting a tank, but at a fearful sacrifice of bullock life, many of which animals belonging to the Sonthals perished from being overloaded. The Sonthals have a bitter recollection of the transaction, as they say they were never remunerated for the loss of their cattle.

25th January 1851.—Went on an elephant with Mr. Pontet five miles in a north-easterly direction, to see a cave which lies in a small valley. Crossed the Jumoonee nullah flowing to the east over a cultivated country to the entrance of the valley. The scenery about this spot is particularly pleasing; the hills have sufficient height to display, the forests growing on their sides and summits to advantage, and the plain is beautifully wooded with large trees, that have escaped being felled by the Sonthals when clearing the forest.

In one of these trees I saw a pair of very large wood-pigeons, called by the natives begum hurryel; they are unknown in the plains outside the hills.

After a short scramble through jungle, and over broken basalt and agate, we arrived at a black wall-like precipice about fifty feet in height, composed of basaltic columns, over which a feeble trickle of water spread itself, imparting to the rocks a pitchy hue. High up the rocks, two pakur fig trees have taken root, and thrown down from their position long and elegant rope-like roots forty feet in length, whose silvery whiteness contrasts well with the black columns. On the summit of the precipice are some very fine naked armed sterculias, and at the base of the precipice is a cave named Seer Gadi, forty feet in length, twenty in depth, and about five feet six inches in height; the roof of which is composed of the basis of the columns. The cave is dedicated to Mahadewa, whose emblem, the Lingum, is seen in the cave. The Lingums, of which there are a great number, the walls and roof, are besmeared with red lead and ghee; the floors and walls in the vicinity of the Lingums are in a wretched state of filth, from the quantity of goat's blood which has been sprinkled about in every direction, the blood being that of victims offered up by Sonthals, hill-men, and Hindoos indiscriminately. The cave is kept by a Brahmin from Cheetowleeah, in the plains, and clears about one hundred rupees yearly, the produce of votive offerings, principally presented by the Hindoos from the plains.

A small well has been sunk in a mountain torrent close by, for the reception of drinking water.

Immediately at the foot of the precipice stood the half of a handsome agate ball, a foot in diameter, filled with pure water, which, falling drop by drop from the columns, afforded the attendant Brahmin a cool, and, as he imagined, a holy beverage.

The basaltic columns are very irregularly crystalized, exceedingly tough, and are marked, or are indented with numerous and minute broken vesicles.

From the cave we mounted the hill, and after a walk of four miles in a southerly direction along the summit, through a very pretty forest and fearful spear grass, we descended at the southern spur over an extensive land-slip that occurred during the great flood of 1845; the Sonthals and hill-men who were with us say that it descended during the night, attended with great noise. The forest is completely rooted up for several hundred yards along the face of the hill, displaying large mounds of red gravel, clay, and masses of basalt.

Thermometer, 43° Faht. at sunrise.

26*th January* 1851.—Thermometer at sunrise, 46° Faht. Early this morning Mr. Pontet kindly drove me in his buggy to Ghutiari, which lies six miles south-east from Burhyte, and is on the eastern side of the hills; to clear which we passed through the Ghutiari Ghaut, which is a good carriage road, running between very prettily wooded basaltic hills capped with hill villages. The whole of the drive was through a well cultivated and populated country, and prettily wooded. A Sonthal, although he does clear away the forest in a most masterly style, has the good taste to spare all the useful and ornamental trees when of any decent size: this always imparts a park-like appearance to the Sonthal clearances.

At the village of Khulouna, the Sonthals have dammed up a sluggish stream, whose bed has thus become a very deep body of water, abounding in fish, which has attracted numerous fishing eagles, which we saw busy at their avocation. At this same village, Mr. Pontet has planted a large field of potatoes, in the hopes of inducing the Sonthals to take a fancy to the vegetable, and pay some attention to its cultivation; but no persuasion hitherto used has been forcible enough to induce the Sonthal to give themselves the trouble to raise this crop, which would meet with ready purchasers in the Bengalis; they say "We do not want the potatoe."

At this spot is a small shola swamp *(aschynomene paludosa)*, but no one makes any use of this useful water plant; Lower Bengal, I imagine, supplying all the wants of the surrounding country.

The bungalow at Ghutiari is only five miles from the eastern boundary of the hilly tract.

Buffaloes, from their superior strength, are preferred by the Sonthals both for agricultural purposes as well as for draught, to the common grey cattle, which latter animals are readily exchanged with the Hindoos from the plains, who import buffaloes for that purpose; all the solid wheeled carts, if possible, are drawn by buffaloes.

The Sonthal, in the construction of his solid wheeled cart, and in the mode of loading it, shows an utter contempt or ignorance of all rules of mechanics. The cart consists of two wheels, composed of two or three pieces of wood, each put together so as to form a solid wheel three feet in diameter. These wheels are supported at a distance of four feet apart by a wooden axle, on to which, and three feet apart, are pegged two long saplings or bamboos fifteen feet in length; these bamboos, forming the whole body of the cart, are at the other extremity tied together and attached to the yoke that rests on the buffaloes' necks. The

wheels being at one extremity of the poles, and the other end reposing on the buffaloes' necks as a fulcrum, leaves fifteen feet of unsupported length as the body of the cart, on which are imposed heavy burdens of rice, packed in huge and ingeniously made straw baskets or rather straw rope balls, five feet in diameter; and as the driver almost invariably adds his own weight, by standing on the cart, a ruinous and cruel weight is thus thrown upon the necks of the draught animals and upon the body of the cart, which bends and springs under the weight, whilst the wheels, which are at the utter extreme of the bamboos, are pressed outwards and backwards, and seem inclined to fly from their position, which they would do with great force if relieved by their retaining wooden pegs.

When it is intended to convey grass, rice in the ear, or any other crop on these carts, a few sticks are interwoven with the two skeleton longitudinal bamboos, so as to form a temporary retaining body to the cart.

No iron or other metal is ever used in the construction of these carts; wooden pegs and twisted grass string serving all the purposes to which metal is put by a wheelright.

The plough, in like manner, is a simple but effectual instrument, consisting of a crooked block of wood, fitted with a still more crooked wooden handle, and a light beam from six to nine feet in length; the share is a small bar of soft iron a foot in length and one inch in width, one end of which is hammered into a wedge-like shape, this is the cutting part, the other, or blunt end, is shipped into a groove in the foot of the plough, where, with the aid of two small iron claps laid across the groove to prevent it flying upwards, it is retained by the pressure conveyed to it during its passage through the soil. The deepest furrow ploughed with these instruments is about four inches.

Two buffaloes draw the plough and one man guides it; after the day's work the Sonthal shoulders his plough and walks home.

27th January 1851.—Thermometer, 46° at sunrise.

General direction, north-west, twelve miles. The distance gained this march was only twelve miles, though twenty miles of ground was gone over.

At Burhyte, crosses the Jumoonee river, exposing basalt in its bed, to Kuksi, two miles in a northerly direction, over a well cultivated country.

From thence west, over a spur of the low basaltic hills, offshoots from the high Sunjori hills to Telaki, situate in a valley or *cul de sac* formed by the Sunjori and Mori range of hills. Near the village of Telaki are two trees, situate in a jungle on the banks of a nullah. The name of the tree I am unacquainted with; one, which was of great beauty, had a tall straight stem sixty or seventy feet in height, surmounted by an umbrella-shaped arrangment of branches, which projected from the main stem at right angles; half way up the main stem was a similar arrangement of branches. From all the smaller branches and twigs an infinite number of their delicate green pods, a foot in length, but not thicker than a quill, hung in festoons, forming an elegant fringe to the lower outline of the foliage. All parts of the tree yield large quantities of a thin white milk, which falls in large drops in quick succession when any pod, leaf, or twig is broken. The leaves grow round the branches in circlets of eight leaves, from amongst which spring four delicate stems, which, in their turn, are again surmounted by eight leaves; the leaves are three or four inches in length, narrow and pointed, smooth and very milky. The native or Sonthal name for the tree is Chutmi, and the milk is used in hydrocele;—none of my up-country servants recognized the tree. I have, since writing the above, seen two stunted specimens of the same tree growing near Sooree; they were also called Chutmi by the villagers.

From Telaki ascended the Mori hill, supposed to be the highest hill in the whole of the Rajmahal range. The range at the base is very densely wooded, the soil covered with kunkur. After an ascent of two hours reached Busko, situate in a fine forest of large trees, principally asun, kurm, mango, tamarind, and dhow, above which is situate the village of Mori.

In a small torrent I saw basaltic columns measuring fifteen feet in circumference, being hexagons of two feet six inches each face.

Mori is a large and well populated hill village. Several low-landers were bargaining and bartering with the hill-men for grain grown on the summit of this range.

The summit of Mori, which is about two thousand feet above the sea, is covered with a fine forest, principally of kurm (nauclea), some of which have attained an enormous size; one in particular is well known all over the country, and has been of great use to me during the progress of the survey of the hills, as it stands a prominent landmark visible from most parts of the northern hills. From this tree there is an extensive view of the greater part of the hills, as well as a great portion of the plains of Bhaugulpoor.

At the village of Mori, Mesur, mangi or chief of the village, at my request took me inside his neat house, in one corner of which stood a small bamboo platform, on which were placed several skulls of the barking deer, and two skulls of the four-horned antelope, which had been killed on this hill either by himself or by his ancestors; the skulls must have been of a great age, as they were nearly black with smoke. It is customary to hand these trophies down from father to son, and such is the reverence with which they are regarded, that they are worshipped and bowed down to as gods.

I made a present to the mangi of some money, who in return insisted upon loading my servants with bora beans. Here, as at all the hill villages, I was received with the greatest attention, the mangis invariably placing their neat little bedsteads in the shade as a seat not only for myself but for all my attendants.

Two fine young men accompanied me down the hills as guides; we descended the western flank of the Mori peak to Chupri, situate on a lower range of hills. Passing through the village I saw a platform perched up in a tree covered with skulls; the only one I could recognize was that of a neelghye. I did not like to disturb the group, hidden as it was by leaves, knowing the importance and respect they pay to these strange relics.

The steep descent from Mori to the lower range, which was over loose and rolling pieces of basalt, was a work of some difficulty to a small female elephant which had accompanied me up the hill, to the utter amazement of the hill-men and women, who had never seen such an animal. A long walk of seven miles along the saddle-back of a range of hills, during which passed through Sutbhera, Dumlee, and Soni, all hill villages, and through a deliciously cool and shady forest, I descended the Semi Ghaut at 3 P.M. to the Sonthal village Semi, having been on foot ever since six in the morning, and that without food.

The whole route was over compact basalt with occasional masses of iron ore, agate, chalcedony, and quartz crystals. The only animals seen were large troops of the Sungoor monkey.

I was particularly struck with the enormous size of the arahur dol (*cytisus cajan*) that grew upon the hills, each seed being the size of a small bean.

On descending the Semi Ghaut, I saw black shale in a small ravine.

28th January 1851.—Direction west, five miles to Hurrah, situate on a bed of coal and surrounded on three sides by hills. The road is through jungle and over very raviney ground; as far as Bumkungaon, two miles from the ghaut. The formation is basalt, decaying into the usual spherical masses, and large quantities of iron ore. In a small nullah a little to the south of the village are basaltic columns; at Lohartumba, or four miles from the ghaut, is another group of basaltic columns, and immediately to the west, a coarse ferruginous sandstone appears; and at Hurra large beds of coal appear in a small nullah close to the village. This coal, I believe, was discovered by Captain Tanner in 1831; in 1850, a shaft was sunk though the beds, but a rush of water taking place, the work was abandoned. The coal is of a slaty and inferior kind.

In the evening, walked to the hill village Hurra, where I had an opportunity of inspecting three collections of skulls and bones; two heaps were on the grass roofs of huts, the third, or the mangi's group, was on a small wooden stand supported by wooden posts, and contained numerous skulls of the spotted deer, wild hog, porcupine, hare, and barking deer.

On the point of one of the spotted deer horns, a hen's egg was empaled.

Some of the pigs at this village were of an enormous size, and of a different breed from the ugly long-legged pig of the plains.

29th January 1851.—Direction north, two miles through ravines of sandstone *débris*, with indications of coal; passed through a gap in the Gundesree sandstone range of hills named Bora Ghaut, where there are again indications of coal; descended the ghaut, and skirted the base of the hill to the western extremity, which terminates in several peaks of sandstone and ironstone curiously jumbled together, which gave Dr. Buchanan the idea of the spot having been a volcano. The rocks are a heavy ferruginous red sandstone. Iron is smelted at several villages in the neighbourhood. Turned to the north-east and skirted the base of a detached sandstone hill; the northern face of the hill is singularly barren, presenting masses of glaring white sandstone. At Sohunneea, where there is a bungalow, I attended the market, at which were several hundred hill-men and women. It is really surprising to see the torture—for it can fall little short of such an infliction—the Sonthal women put themselves to in order to, as they imagine, adorn their bodies. Their arms, ankles, and throats are each laden with heavy brass or bell-metal ornaments. I had a quantity of these ornaments weighed, and found that the bracelets fluctuated from two to four pounds; the anklets four pounds each; and as a fully equipped belle carries two anklets and perhaps twelve bracelets, and a necklace weighing a pound, the total weight of ornaments carried on her person amounts to *thirty-four pounds of bell-metal*,—a greater weight than one of our drawing-room belles could well lift. Almost every woman in comfortable circumstances carries twelve pounds weight of brass ornaments upon her person.

The hill-women are much more moderate as far as the heavy metal ornaments are concerned, which would never agree with the frequent trips up and down their steep hills; but as many as twenty strings of bright colored beads, which cover the whole of the throat and breast of the wearer, may be seen worn by a market-going woman.

Direction east, five and a half miles, over a highly-cultivated plain of black cotton soil; passed between two hills composed of sandstone, basalt, and ironstone to Meghee, where there is a bungalow. The view of the hills from the bungalow is particularly beautiful: every peak or rise in the hills has a village upon it, surrounded by mango and palm trees; the hill sides are cleared of jungle for several miles for the reception of the rain crops. Meghee is situate immediately in front of the Munjwa Pass, through which pass, it is supposed, the Mahomedans invaded Bengal.

Mr. Pontet has planted a garden at Meghee, in which are flourishing coffee trees, lemon, casuarima, pine-apples, peas, cauliflowers, beet, mint, carrots, and plantains.

30*th January* 1851.—Direction north, twelve miles, over a fine cultivated country entirely occupied and tilled by Sonthals; passed through Murroro, where there is a bungalow, to one of the boundry pillars, where I pitched my tent.

In the evening, went three-and-half miles along the boundary in a northerly direction, over a newly-cleared country, which three years ago was a dangerous jungle on account of tigers. The zemindars of Munheearee, a neighbouring and contiguous tuppeh to the Damin, alarmed at the Sonthals' advent and wholesale clearance of the jungle, had disputed the boundary, which I have settled by cutting a road through the jungle from pillar to pillar, a distance of three and half miles. The crops of arahur dol and gram growing in the virgin soil are most luxuriant.

From the small basaltic hill Baltok, there is a fine view of the River Ganges, the Colgong granite hills, Peerpointee, and the country to the north of the Ganges.

A few years ago, the jungle at the foot of Baltok was the resort of wild elephants, which have been exterminated by the hill-men. Their mode of destroying these animals was by placing in their track Indian corn that had been poisoned with the dakrah root; the Collector of Bhaugulpoor rewarding their success with fifty rupees for each elephant poisoned. The last elephant destroyed in these parts is supposed to have perished about twenty years ago.

31*st January* 1850.—During the operation of directing the cutting of the jungle along the boundary, I was amused to see a Sonthal pounce upon a large nest of the mata or large biting red ants, that had been brought to the ground by the falling of a large tree. He beat the leafy nest violently in his hands until he had killed the whole hive, and then coolly commenced eating them, offering a pinch to his friends standing by. He said in reply to my question that they were acid, but very good. To the former opinion I agree, as upon tasting them I found the taste nearly as sharp as diluted sulphuric acid, having the same unpleasant effect upon the teeth; but to the latter part of the sentence I entirely disagree.

These ants, the dread of travellers in the jungles on account of their pugnaciousness and painful bite, build their nests amongst the leaves of the mango trees, which they agglutinate with a species of web into round hollow balls; the ants are of a pale orange color, half an inch in length with black eyes, and are exceedingly numerous, carnivorous, and troublesome.

In a house where I once resided on the banks of the Ganges, I was much troubled with an extensive nest of hornets that had taken up their abode in the thatch immediately over the entrance door. I was recommended by the natives to try the effects of the mata. A nest was accordingly brought and put into the thatch near the nest; as each hornet arrived and settled, he was immediately seized by the ants, several to each leg, others mounted on his back, and in a few seconds, and after a violent struggling, he fell dead to the ground; but whether stung or bitten to death, I could not observe. In a couple of hours the ground was strewed with hundreds of hornets, and before the evening the nest was destroyed.

I have seen a full-grown chameleon killed in a few minutes by these ferocious insects; the poor creature had been, together with his cage, put in the sun at the foot of a tree, from which the ants descended, attacked the animal, and killed him.

1*st February* 1851.—Direction north-east, six miles to Simuria on the hills, the residence of Kesoo sirdar, one of the northern stipendiary chiefs. The greater part of the road

was through heavy jungle, through which a road had to be cut for the elephants. Passed over several beds of kunkur lying upon basalt; and in a deep nullah between two small Sonthal hamlets, Singtee and Simortola, saw a bed of fresh water limestone common to the basaltic formation. This bed was discovered by Mr. Pontet last year and opened by him; it is a bluish grey rock, filled with minute longitudinal cavities; the strata are much contorted; it effervesces freely with diluted acid.

Ascended the Simuria hill to the village of the same name, by a steep stony road, through jungle; the rock is basalt with masses of ironstone.

The village of Simuria is buried in a fine forest of magnificent Nauclea and Uvaria, any one of which would be an ornament to a park; the soil on the hills composed of the decomposed basalt and ironstone mixed with decomposed vegetable matter forms a soil highly conducive to the growth of both trees and crops in general.

The view from the summit of these hills, which here form the northern boundary of the range, is very extensive, extending to fifty miles north of the Ganges, and on clear days in the rainy and cold weather months, or from August to December, to the snowy range of the Himalaya, distant one hundred and eighty miles.

Kesoo sirdar, who is an elderly man, was most attentive: he introduced me to his wives, (he has four,) to his children and grand-children, who all received presents according to their ages, consisting of money, beads, gilt, and glass buttons; a large clasp knife, scissors, empty bottles, gin, gunpowder, shot, and soap; the latter article by especial desire of Kesoo.

The old chief took me to the summit of a hill close by, commanding an extensive view of the hills lying to the south. To the south-west the hill, Mundarin Bhagulpoor, and to the west, the Monghyr hills, are visible. On this hill a spot was pointed out, where some missionaries had felled a quantity of the finest trees for the purpose of erecting a house; the spot had, however, been deserted, and the missionaries had never returned; old Kesoo mourned over his trees, remarking that although they had been felled in one day, they had taken fifty years to grow.

On a point of the hills immediately overhanging the Ganges, is a masonry platform, where Mr. Cleveland used to pitch his tents. It is particularly pleasing to hear one of our countrymen spoken so well of by so large a body of half-wild people as Mr. Cleveland is spoken of by the hill-men; his name, after a period of sixty-seven years, is still remembered with much affection.

2nd February 1851.—Direction east, along the top of the hills. In six hours travelled five miles, the road having to be cut the whole way through jungle. Passed through the hill villages Puchrookhee, Boothouna, Pokuria, and encamped at Gogi, overhanging a deep dell and overlooking the Ganges; the road very difficult, being much cut up by deep water-courses, jungle, and loose stones. At Pokuria passed through a stone entrenchment, which is here thrown across the road. In the days of the Mahomedan kings, the hill-men were in the habit of murdering all and every emissary sent from the Mahomedans, then in full force at Rajmahal; and this entrenchment, which is a low wall of stones, extending in a zig-zag fashion across the road, was one of their favourite spots of ambush, where the hill archers lay in wait for the messengers or soldiers who were sent in to the hills to coerce or otherwise annoy the hill-people. Kesoo sirdar, who was with me, remarked, "*We were bad subjects in those days, sir, but Mr. Chibilly (Cleveland) soon put us on friendly terms with all our neighbours.*"

Close to this spot I stopped to examine one of the large creepers so common in these forests; it was a ghila or bauhinea scandens; its stem, on leaving the ground, divided into

three separate branches of about six feet girth each, which with their tendrils extended for several hundred feet in every direction, occupying upwards of *one hundred trees and saplings* as their supports: the main arms extended for about five hundred feet in length, and at two and three hundred feet from the root, were three feet in girth, the edges of the stem scolloped and waved in a remarkable manner.

The forests on the northern hills are very fine, and contain much fine timber; the principal trees are cassia fistula and a tree much resembling it, bearing the same long pod, but the tree yields a thick white milk when bruised; the grislea or dhow; the bijeesaul or dalbergia, also called sitsaul, puhsar, and sisoo, the name depending upon the part of the timber mentioned, the color of the wood, and age of the tree; dhow or grislea; asun and urjoon, both terminalias and sakua, which I take to be a shorea. The sal forests in the northern hill are fast disappearing. The principal crops are Indian corn, junera, rajrahur dal, several small pulse, and the bora bean. The summits of all the northern hills are capped with laterite, which has abundant nests of bright red and yellow lithomarge disseminated.

In the jungles were traces of leopards and bears.

3rd February 1851.—Direction south, six miles to Banghi. Immediately to the south of Gogi, descended by a very steep path over laterite to a lower spur of hills running at right angles to the high range fronting the Ganges; just before descending this abrupt height, a beautiful view of the great interior valley presented itself. As the road had to be cut through the forest the whole way, only six miles in four hours were accomplished. The forest on the southern slopes of the northern hills is exceedingly dense, as indeed, are the forests on all the northern hills. The forests traversed this march met completely overhead, affording a delicious shade even at noon. The woods resounded on all sides with the cries of jungle-fowl and peacocks, boa-constrictors, mouse-deer, leopards and various kinds of deer, are found in the secluded nooks of these hills.

The forests at the foot of the hills are composed of the same kind of trees as noticed yesterday as growing on the summit, except that a few sal trees appear; also a dense underwood of bamboo-grass, reeds, grass and numerous shrubs, amongst which the wild jasmin spreads its branches laden with sweet smelling flowers. In the underwood, I noticed numerous small birds, which appeared clothed with down rather than feathers; they have a white bare rim round the eye, are very familiar or fearless, and very abundant. I have never seen the bird figured in any work of natural history. The golden orioles were also plentiful in the mango trees.

At Nowgachi hill village, which is one of the neatest and cleanest hill residences I have yet met with, are two very grotesque gods, carved in a rude manner, so as to represent elephants, to which animals they bear but a very faint resemblance. Between these images, which are surmounted by human heads, probably to represent the mahut, or driver, at certain seasons of the year, goats, buffaloes, pigs, and cocks are sacrificed to Bedo Gosain, or the great god. A buffalo was tied before the mangi's door that was to be offered up during the present month.

Fifty young hill-men accompanied me from this village to assist in cutting a road for my elephants, which they did with right good will, and appeared highly pleased with the occupation. The hill-man is not to be compared with the Sonthal in the use of the axe; the former is awkward and slow, compared with the active Sonthal, nearly one-half of whose existence is spent felling trees.

At Merapara, descended the hills to some extensive Sonthal clearings, situated on the banks of the Morel hill torrent, which is the principal drainer of the northern hills,

and flows to the south. The highland overhanging the Ganges, and which is about two thousand feet in height, sends no streams to the north, with the exception of a small stream which flows from the motee-jhurna water-fall, situate to the south of Sikree Gullee.

The hill-men in my company, on coming within sight of the Sonthal clearings, complained bitterly, as indeed did Kesoo sirdar at Sunuria, of the encroachments of their low-land neighbours. They said that the Sonthals were occupying all their valleys, were very saucy, and would not leave their clearings, alleging that they had received leases from Mr. Pontet, and move they would not. The fact is, the hill-men will not cultivate the valleys, and do not like to see any one else cultivate them. Mr. Pontet freely invites the hill-men to take the Sonthals' fields and use the land rent-free; but if they will not use the land nor cultivate it, he immediately allows the Sonthals to take possession.

In several spots, the Sonthals have actually got possession of villages on the hills, so that the hill-men have every reason to fear the encroachments of their neighbours, the Sonthals.

At the Sonthal clearing of Nargunjo, now a twelvemonth old, it was distressing to see the enormous waste of valuable timber; fine large trees of many feet diameter were prostrate in every direction, hundreds of other still larger trees stood erect, but withered, being too large for the small Sonthal axe to cut entirely through; they had been merely girdled, which operation consists of cutting a deep notch of four inches or more in width and depth completely round the tree; in a few months every leaf falls off, and at the end of the year all the smaller branches disappear, next the bark peels off in huge flakes, leaving the main stem standing like a ship's mast, and which weathers the storms for many years.

In one field of mustard near Nargunjo, I saw upwards of fifty-five timber trees standing in this naked condition, offering a melancholy and curious contrast to the neighbouring green and luxuriant forest, with which the field was entirely enclosed.

In a few years, not a tree will be left in these now timber-crowded valleys; almost the whole of the large sal forests have already perished under the operation of girdling for the production of the resin known as dammer or dhoona.

The hills being entirely closed in to the north, and as there is no possibility of getting this valuable timber over the hills to the Ganges, which is only a few miles from the forests, averaging from four to twelve miles, the whole of the felled trees will, and are permitted to rot, on the ground.

Amongst the hill-men, who accompanied me this morning, I noticed the following diseases:—blindness from white film; varicose veins in the calf of the leg; secondary syphillis and goitre; fever and ague is also common amongst the inhabitants during the months of September and October.

At the foot of the hills I passed through a great quantity of a hoplike-looking bush, called by the Sonthals *chapoor*. I am unacquainted with its botanical name, or with the names of many, to me, unknown plants and trees, daily met with in these hills.

Rocks passed over to-day were laterite overlying compact basalt.

At Banji, in addition to the churuk poojah pole which graces, or disgraces, every Sonthal village of any note, I here found a board armed with sharp nails, on to which the worshippers are tied, the nails piercing their backs, and in this state are swung round as in the churruk or swing-poojah of the Bengalis, and from whom, I imagine, the Sonthal has borrowed the rite and its attendant festival. I also observed a horizontal gymnastic bar used by the athletes of the village during the same festival.

4th February 1851.—Direction south, ten miles to Burio Bazar, a fine Sonthal village a mile from the banks of the Morel or Morung nullah.

At starting, got upon Mr. Pontet's Rajmahal road, which runs mostly through fine timber forest, with extensive Sonthal clearings and numerous villages.

At the fourth mile passed between basaltic hills beautifully wooded to the summits.

At the seventh mile is an old ruined mud fortification; it is a square, composed of an outer mound of earth, measuring a mile and half in circumference; the excavation for the erection of which forms a wet ditch, filled with water, enclosing an inner fort higher than the neighbouring ground and contains a few brick walls and the remnants of a Hindu temple, which has been completely lifted from its foundations by an enormous banian tree that has enveloped the whole building, unroofed it, and destroyed the walls; masses of detached masonry suspended in the tree is all that remains of the building.

Both the outer and inner forts are over-run with jungle, palm-trees, fine forest trees, bamboos, grass and marsh weeds; amongst them I saw the beautiful jacana, upheld by his long and delicate claws hurrying across the floating reeds and grasses.

This fort was, it is asserted, built by a khetri Rajah of Munheearee, but when, or for what purpose, is no longer remembered.

From Burio, it is Mr. Pontet's intention to cut a road over the hills to the east of the valley, so as to connect Rajmahal, which is only fourteen miles east of Burio, with the valley. This road should engage the attention of the Post Master General at Calcutta, for when once this road is opened, all necessity for conveying the dâks during the rainy season round by Sikree Gullee, Peerpointee, and Colgong by water, for which purpose three boats with their crews are kept up, will be at once obviated, as there will be a high and dry road from Rajmahal to Bhaugulpoor, and only four miles of hilly and jungle road in the whole route. The only engineering difficulty is the Morel nuddy to the east of Burio, which during the rainy reason brings down an immense body of water and a quantity of trees; and although the bed of the nullah is from twenty-five to thirty feet deep, but very narrow, the water occasionally leaves it and spreads over the country: this, however, only occurs every fifth or six year, and the water soon runs off again.

Purchased of the Sonthals at this place a quantity of plaited and twisted cow-tail hair necklaces, that are worn by both sexes. These ornaments are made by the cow-herds whilst herding the cattle, and are of great beauty and delicacy; many handsome necklaces of thirty and forty strands, each strand composed of triple-plaited hair, were offered for sale for four annas, or six-pence English money, each necklace.

5th February 1851.—Direction south, eleven miles to Burhyte road, the whole way over basalt and black cotton soil, producing fine crops of rice, &c.; the basalt everywhere resolving by the process of exfoliation into a grey spotted wacke, leaving the hard ferruginous globular nuclei scattered about the country.

At Ruksee, two miles north of Burhyte, is a spring of cold water, issuing in a fine stream from a red gravel bank, composed of pisiform iron ore and a red clayey soil: the supply of water is seven hundred and twenty gallons per hour, and supplies the village with good water. A few yards to the south is a northern but weaker spring, the water of which is not used.

6th February 1851.—Direction south, ten miles through a rugged country destitute of roads, but well inhabited and well cultivated. The view from the road at Jussiadih, looking over the Burhyte valley back by the well occupied Chuperbhita hills, is very pleasing. Ascended

and crossed over the balastic hill Chooklo, passing through a hill village by name Mokri, where all the women were clothed no higher than the waist. Descended into the Murgo Pass to Putwara, where there is a hill village, the women of which were in the same costume as at Mokri. The hills to the south of the pass are very high and prettily broken into ravines well wooded, and in the summits studded with hill villages; large patches of cleared land with the Kirbee or stalks of the Indian corn and junera still standing are seen on all parts of the hills.

The whole of the rocks passed over to-day were compact and earthy basalt.

7th February 1851.—Direction south, eleven miles to Soorujbara, on the right bank of the Thorai nuddy, one of the drainers of the eastern hills. The country passed over was very broken and uneven, and undulating considerably, exposing naked sheets of basalt. Passed through much tree jungle, composed principally of asun, dhow, siris, and sakua, and through several fine Sonthal clearances, especially that of Leeteepara, which is situated on high commanding ground.

Soorujbara is also situated on high ground, commanding a very extensive view of the hills and of the low-lands at their base.

The weather throughout the day was highly oppressive, although the thermometer in the shade never exceeded 73°. Numerous electric miniature whirlwinds were travelling about the country; gentle wind from the east with a few clouds.

A violent thunder-storm occurred at midnight, accompanied by heavy rain and high wind from the west, which drove me from my tents, taking refuge in the bungalow close by.

8th February 1851.—Direction west, about eight miles, through a very heavy forest of sal, sakua, asun, and dhow, over broken and raviney ground and low hills to Gowpara, the largest village in the hills, containing about eighty houses and four hundred souls. The village is situated on the summit of a high range of hills, which here form the central or largest group. The village is surrounded by neat hurdle fences enclosing tobacco, mustard, plantains, date and palm-trees, and in the centre of the village, and around the houses, are numerous fine palm-trees, tamarind, peepul, mango, jack, clumps of bamboos and plantains; the houses are neat; numerous cattle-sheds, pig-styes, and well-stocked granaries bespoke plenty and comfort.

My arrival seemed to have struck a panic into the minds of the whole population, for on entering the village I could not find a single soul to speak to; every one had fled to their houses and fastened their doors.

Fortunately a fine old man, who was on the roof of his house, laying out tobacco to dry in the sun, and who was ignorant of our arrival, was caught; his trepidation at the appearance of myself, servants, and elephant, was most painful, and not without much persuasion could he be induced to descend from his house for the purpose of showing us the mangi's residence; a house was pointed out as being that of the mangi's, but it was, as was every house in the village, closed. I took up my residence in the verandah, where hung bows and poisoned arrows, deer-horns, wild boar skulls, pea-fowl eggs, and the cocoon of the wild silk or tusser. The mangi soon arrived from the jungle, carrying on his shoulder the produce of his morning's work, a log of wood; he was so alarmed at my appearance, that he was speechless, but after an hour's persuasion, talking, and laughing, he gradually thawed, and told me that he had never before seen a white man, nor an elephant, nor had any one individual out of the four hundred inhabitants of his village ever seen one or the other. The ice being now broken, and the reason of his timidity known, I endeavoured to prove to him that a mortal with a white face was not the dreadful creature he imagined; I presented him with an empty

bottle, a quantity of beads, gilt buttons, bodkins, ornaments for the women's hair, and told him to assemble all the children of the village, to whom I presented in succession three or four strings of beads and a handful of buttons. I now had the whole village with me, and turning round I perceived the mangi's house doors wide open and about fifteen females, old and young, standing behind me, into the midst of whom I threw a quantity of the hair ornaments, consisting of tufts of tusser silk, dyed scarlet and tied with black cotton; to the children in the mangi's house, I distributed a quantity of copper money, bargained with the mangi with a quantity of empty bottles and money for poisoned arrows, bows, and grass hammocks, bade him good-bye, and strongly recommended him next time he met a European to be more at his ease, and not to be afraid of him, as no one had the most remote idea of doing any harm to any one in the hills; on the contrary, that we were all desirous of seeing so worthy a race happy and contented.

I was amused at the mangi's repeated question put to me in a most serious tone, as to whether I had of my own free will given him the empty bottle, my first gift to him; upon my assuring him that my gift, a most invaluable one to him, and whence his utter unbelief of my disinterestedness in the matter, had given me as much pleasure in the making as it had him in the receiving; he seemed partly satisfied, but repeated the question at intervals during my stay at the village.

The men of these central hills tie their hair much more on the back of the head than do the men further north; neither have they the flattened noses, nor such thick lips as their northern brethren; neither do they pay that attention to dressing their hair or ornamenting their ears or necks with beads and trinkets, which is so striking a feature in the northern tribes. The women, in the same manner, have scarcely any ornaments, are poorly dressed and untidy in their appearance. Their great distance from any market or bazar may in a measure account for the difference of dress.

The mangi gave me six young men with axes to cut a road through the forest; I started in a northerly direction through the finest sakua jungle I have yet seen in the hills; the trees are all of the very largest growth, affording an abundance of good timber; a few sal and dhow trees are in company with the sakua.

To my right, as the path inclined to the west, I had a high range of thickly-wooded hills; to the left a deep valley filled with five Sonthal clearings, the road lying along a perfectly level steppe of trap, the decomposition of which has clothed the hills with a jet black soil, highly productive of vegetable life. As usual, the forest met overhead, forming a complete shelter from the sun's rays.

On these hills I found an abundance of a bulbous root, which I take to be the squill; it is as large as a common onion and intensely bitter. The Sonthals use it to thicken newly-woven cloth, by applying its bitter juice to the surface of the piece.

On the right of our party and far up the hill, a furious drumming and screaming was being carried on, which proved to be a party of hill-men driving from the neighbourhood a leopard that had been annoying their cattle.

In the thickest parts of the jungle, I fell in with several places of worship as used by the hill-men; the spots are generally occupied by two upright posts supporting a horizontal one. On the latter were threaded, so to speak, several old baskets, calabashes, earthern pots, rings of date leaf, an old wooden mortar without a bottom, bundles of leaves tied up like a porter's knot, bamboo winnowing baskets and string hammocks. At another "gosainthan," as these spots are called, I found the horizontal pole supporting numerous bamboo bows and arrows, battle-axes made of bamboo, with date-leaf blades, and numerous date-leaf rings; at a small distance removed and laid in the foot-path, were several small earthern-ware cups

filled with blood mixed with spirit, and near the cups was a bundle of staves and bamboos such as are used by the hill-men when walking. The whole of these articles are offerings made to Bedo Gosain, either as votive offerings, for expected or hoped for blessings, or as offerings of thankfulness for benefits received.

At sunset, I ascended the Sendgursa hill by a very steep ascent, from the summit of which I had the finest view of *coup d'œil* yet obtained of the hills; the hill is about two thousand feet above the sea, and from its summit I could see the following remarkable landmarks; the Monghyr hills to the north-west, distant eighty miles, with a G. T. S.* on the hill Maruk; the G. T. S. Mundar hill in Bhaugulpoor half way, or forty miles distant. The Ganges at Bhaugulpoor, distant sixty miles in N.N.W. direction: the long reach of the Ganges extending to Reampur Bauliah, seventy miles in an E.S.E. direction; the whole of the country lying between the foot of the hills and the military station Berhampoor, on the Bhaugerutty, extending over fifty miles. To the south G. T. S. on the Satbor hill, in Belputtah, distant forty miles, appeared topping the whole of the Caticoond carboniferous range. To the W.S.W., distant fifty miles, the Teour hill, another G. T. S., and all the small detached hills of Beerbhoom, as well as the hills of Hendweh and Pusseje appeared; amongst the latter are the Nugwan and Puchpuhar hills, both G. T. S. In a S.W. direction, the great Parusnath mountain is visible, distant one hundred miles. This mountain, in height nearly five thousand feet, has a G. T. S. on its summit, and forms the culminating point of the rocks of the great primitive plateau extending from Beerbhoom to the Dunwah Ghaut.

To the S.S.W. the view extends over the Burdwan coal-fields; and to the S.S.E., over the whole of the eastern portions of Beerbhoom and Burdwan, with the whole of the southern Rajmahal hills and surrounding forests, as a foreground; whilst the view of the hills at my feet was most complete: I could see into every valley, count every village, and trace the outlines of the hills and valleys.

Descended the Sendgursa hill and ascended the Sootlee hill to Busko, a small hill village, from whence I was enabled to examine a deep valley to the north-east. The summit of the Sootlee hill is composed of laterite, highly sonorous when struck; the noise of the footfalls of my party walking along sounded like a body of men passing over a drawbridge, and I noticed that the naked foot produced a much louder sound than was produced by those wearing shoes. I attribute this sound to the cellular nature of the rock and to the thin stratum of earth covering it; this sonorous rock lasted for a mile, the notes ascending and descending a whole octave according to the nature of the rock below.

Slept in a hut at the village of Balkumi to the north of the Sendgursa hill.

As sunset drew near, the air was filled by a vast flight of the winged white-ants (termes), which took their flight from numerous orifices in the ground, close to the hut in which I had taken up my quarters.

These flights generally take place during the rainy season, or in August and September; they are the females who, having arrived at perfection, leave home to seek a nest of their own, where they become the queen-ant.

Out of the myriads that go forth to seek their fortune, a very small proportion can ever reach their destination, as every bird and beast in the creation appears to devour them with avidity. At my feet a hill-dog was eating the insects by hundreds as they crawled from the earth; the bats had left the shelter of the palm-trees and were attacking them; as also were a numerous flock of minas, who, although they had betaken themselves to roost,

* G. T. S.—Great Trigonometrical Survey Station.

nevertheless left their trees and made a feast of those delicious insects. Cattle, horses, kites, crows, deer, sheep and goats, and indeed almost every animal, devour this all-destroying insect, who, in return, as every one in India well knows to his cost, spares nothing inanimate during its wingless state.

9th February 1851.—Direction south. Descended by the same steep ascent of yesterday to Dangapara, in a deeply-wooded valley, in which the pea-fowl were very numerous and noisy.

Travelled twelve miles in a southerly direction through a deep valley full of Sonthal villages to Umrapara, on the banks of the Banslui Naddi.

At the sixth mile, or near Domuraheer, passed over a flooring composed of the heads of basaltic columns. The rock throughout this long valley affects the columnar shape, and in the Ekri nullah, which drains the valley, masses of basalt are to be seen that have assumed a cylindrical shape, measuring twelve feet in circumference.

10th February 1851.—Immediately to the east of the bungalow at Umrapara, the bed of the Banslui Naddi is crossed by a broad belt of basalt, causing a fall in the stream of about twelve feet; the basalt is thickly disseminated with nests of radiated acicular and tabulated zeolite. The acicular specimens are of great beauty, some of the nests measuring four inches in length, with crystals of a miscroscopic fineness half an inch in length; the flat or stilbite specimens appear in large flat plates of a pearly lustre exceedingly soft, yielding to the nail; the basalt is of a dark green approaching to black, is very tough and heavy, has a sharp angular fracture, and is highly magnetic. The rocks, from the action of the water, are worn into deep smooth cups, varying from the size of a tea-cup to that of a large cauldron.

In the centre of the nullah, below the falls, and detached from the general mass of rocks, over which the water spreads, is a group of colossal basaltic columns; one of a pentagonal form I found by measurement to be forty-eight feet in circumference. The columns are free from zeolite.

From Umrapara, direction south, eight miles, I visited the Doobrajpoor and Gopeekandur coal beds. The coal is found in the Tircultia or Tirputtee nullah, which flows in a valley between sandstone hills, and near the two Sonthal villages above mentioned. The coal which forms the bed of the stream for about half a mile at Doobrajpoor is slaty and good-for-nothing; what may be below it, remains to be seen.

The following is a vertical section through the bank of the Tircultia, down to the water level :—

	Feet.	Inches.
Dark-colored earth	2	6
Slaty coal	1	8
Sand with threads of coal	3	6
Slaty coal	1	2
Sandstone	0	0
Another section gives		
A friable carbonaceous soil	2	6
Sandstone	0	5
Slaty coal	3	0

	Feet.	Inches.
Friable grey sandstone	0	4
Slaty coal	1	6
Tough ferruginous sandstone	0	5
Slaty coal	2	6 bed of nullah.

Dip of strata, east; strike, north and south. Between Umrapara and Doobrajpoor the rocks are sandstone, with occasional beds of intruded basalt, which enclose beds of zeolite.

In the valley known as the Puchwara Pass a quantity of iron is smelted by a race named Nyas, and exported to the plains or sold to the hill-men and Sonthals after having been manufactured into coarse hatchets, ploughshares, and arrow-heads.

At Selunji, where there is a bungalow, and in the bed of the Banslui, the gneiss, with its accompanying dykes of greenstone, have been laid bare by the action of the water of the river; and to the north of the river, about a mile distant, coal with shale and sandstone is found overlying these hypogene rocks. Coal is also found midway through the valley, in a small nullah immediately to the south-east of the Koonda hill, and one mile west of the village of Puchwara. I have marked the spot in my map of the hills, in the hope that some one having the leisure may visit the spot.

11*th February* 1851.—Direction south, thirteen miles to Karodiah, were there is a bungalow on the banks of the Tirputtee nullah, that flows over the Doobrajpoor coal beds, seven miles west from the bungalow.

The whole of the march was over broken raviney and hilly ground, without roads. After crossing the Banslui nullah; the foot-path runs through a forest of dhow and sterculia, the ground strewed with agate and quartz crystals; nests of the latter are seen adhering to, and embeded in a dark-colored and tough basalt. At the ford of the river stands a very handsome tree with dark foliage, the name of which I am unacquainted with: the natives call it kunda or grung; it bears a handsome globular pod containing two seeds, which when ripe are of a scarlet color: from which is expressed an oil used for anointing cattle, and not human beings.

The pod when unripe is highly aromatic and milky. At the seventh mile passed over a bed of red and grey sandstone one mile in width, which has escaped being overlaid by the neighbouring basalt, and which has been cut into by the action of the water of a small hill stream; it is the common coarse sandstone which is found in company with the coal at Doobrajpoor, and of which bed it is an outcrop.

Passed under the small basaltic hill Kalipuhar, on which stands one of the masonry pillars demarcating the Damin-i-koh boundary. The hills about Karodih are low, round-backed, and well-wooded.

12*th February* 1851.—Direction south-west, six miles; over basalt for the first four miles; at the fourth mile sandstone is met with at the entrance of a prettily-wooded valley flanked by low hills. Crossed the sandstone hills to Saltaha, where there is a bungalow, on the banks of a hill torrent.

A heavy fog obscured the landscape during the greater part of the march. The basalt passed over this day was of a pale grey colour, embedding agate and chalcedony balls: and sometimes appearing as large slabs or floors of rock, at other spots as exfoliating into spherical masses. In the nullah south of the bungalow, the water has laid bare a flooring or

mass of sandstone one foot in thickness, the whole divided into right-angled parallelograms of two feet in length by one foot in width. The regularity of the divisions and uniformity of the angles are very remarkable, both of which, I imagine, are the effects of desiccation. The sandstone overlies a soft friable white clay; and observing traces of coal in it, Mr. Pontet, whom I again met at this spot, at my requisition, sent off a Sonthal up the nullah to look out for coal. He returned in the afternoon, bringing specimens of a slaty coal which burnt very well. In the evening went to the spot, which is on the right bank of the nullah one mile south by east of the Sonthal village Chicheroo.

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	Feet.	Inches.
The section in the banks shows earth	3	0
Sandstone	9	0
Slaty coal and shale	0	0

13*th February* 1851.—Direction five miles, south-east to Moosuria bungalow, on the left bank of the Brahminee River. The road winds prettily under low basaltic hills, the lowland being sandstone and shale, much disturbed by the intruding basalt. At Moosuria, half a mile north of the bungalow, coal crops out of the left bank of the Brahminee in several spots, as well as on the opposite or right bank.

The rocks in the river are sandstone, three feet thick, overlying clay and shale. The former rock has been extensively quarried, but in a most expensive and curious manner; deep tank-like excavations have been made in the solid rock, instead of going to the exposed edge of the rock to procure slabs and blocks for mill-stones, which in former days were taken down the river to Bellia Narainpoor, a fine village belonging to Moorshedabad, and situate on the right bank, eight miles from the quarry.

In the evening marched along the banks of the Brahminee to Bellia Narainpoor. At Singhpoor, or at the sixth mile, the river dashes over the bed of basaltic columns of great extent, causing a fall in the stream of about eight or ten feet. To the west, where the rock first appears, it is a waved floor of basalt, having all the appearance of having but lately been poured out in a liquid state over the bed of the river; a little further east it becomes columnar; the columns being vertical or at right angles to the cooling surface; each column measuring four feet in circumference; further east the rock again becomes a solid mass, embedded in which are numerous large and small nests of elegant quartz, crystals, and agate balls; the former of great beauty. Masses of pink felspar are also embedded in the basalt. The whole bed, which crosses the river at right angles, is about a quarter of a mile broad, and is entirely free from sand. In one part of the columnar group, the protruding heads of the columns have been, by the united action of the atmosphere and running water, worn into globes; all the angles of the polygons having disappeared, spaces have been left between the columns, and thus the ground is covered by round balls the size of bee-hives, giving a curious appearance to the whole group.

14*th February* 1851.—A few miles south of Bellia Narainpoor, the basalt ceases, and is replaced by an extensive bed of nodular iron stone, which extends for thirty miles north and south, and about fifteen miles east and west; this bed of iron ore gives occupation to many hundred forges, the produce of which is exported to Moorshedabad, all the neighbouring towns, and to Calcutta.

This extensive iron bed overlies granite and gneiss, both of which rocks occasionally protrude through it; associated with the iron stone are patches of ferruginous sand stone, various coloured clays, and actinolite.

List of Coal localities situated within the Damin-i-koh or Rajmahal Hills, as known in 1851.

Number.	Description of locality.	Discoverer's name.
1	In the Brahminee River, at Moosuria, which river forms the southern boundary of the Damin-i-koh. This coal extends to an unknown distance into Tuppeh Belputtah. An indifferent coal.	Mr. Pontet, 1838.
2	In the Brahminee River, three miles north-west of No. 1, and one mile east of Domunpoor. This is an excellent coal.	Mr. Pontet, 1838.
3	Three miles north of No. 2 are traces of coal in a small nullah, half a mile south of Chicheroo.	Mr. Pontet & Captain Sherwill, 1851.
4	Seven miles north of No. 3 are the extensive beds of Gopikandur and Doobrajpoor valley. The coal hitherto produced is a bituminous slaty mineral.	Mr. Pontet, 1841.
5	Four miles south-west in a small nullah (under the Dhunnia Puharee Hill) which falls into the Goomra nullah, is a bed of coal.	Mr. Pontet, 1841.
6	Two miles north of No. 5, and half mile north of the Nargunjo bungalow, in a nullah, is a bed of coal.	Mr. Pontet, 1841.
7	Situated immediately at the eastern foot of the Koondapuhar Hill, which is one mile removed from the southern or right bank of the Banslui Naddi, which flows through the Puchwara Pass, and one mile west from the village of Mudhobun, is a bed of coal.	Captain Sherwill, 1851.
8	At the western entrance of Puchwara Pass, at the village of Burgo, and on the left bank of the Banslui nullah, is a coal bed.	Mr. Pontet, 1844.
9	One mile due north from No. 8, situate in an enclosed valley, is a coal bed.	Mr. Pontet, 1844.
10	At the entrance to the hills on the western flank by the Chuperbita Pass, and under the lofty spur of a hill of the same name, and in the bed of the Goomani or Jumoonee nullah, are three beds of coal extending to a distance of two miles, and one mile further north-east are traces of coal in the same nullah.	Captain Sherwill, 1851.
11	North sixteen miles of No. 10, and twenty-four miles south of the Ganges, is the great Hurrah basin, with several outcrops of a slaty coal, associated with and underlying columnar basalt.	Captain Tanner, 1831.
12	At the Bora Ghaut, on the Gundaisree Hill, which forms the northern boundary to the Hurrah basin, are traces of coal.	Captain Tanner, 1831.
13	At the Motee Jhurna waterfall, overhanging Sikree Gullee on the Ganges, are traces of coal, but in small quantities. The coal appears to have been charred and disturbed by the basalt, in the heart of which igneous rock the coal in several instances appears enclosed in detached nests, twelve feet in length. A large rhinoceros-looking fossil-skull is seen embedded in the basalt. The summit of the hill, from whence the small stream forming the waterfall at this spot flows, is composed of balastic columns, resting on non-columnar basalt, which latter rock envelopes the coal.	Captain Tanner, 1831.

N. B.—There is an untraced bed of fresh-water limestone in the northern portion of the hills, four miles south of the Telecaghurhee Fort; and situated between the two small hamlets, Gurytee and Simurtollah.

Population Return of the Rajmahal Hills or Damin-i-koh, for the year 1851.

Names of Tribes.	Local Divisions.	Number of Villages.	Number of Houses.	Number of Inhabitants, allowing 5 per house.	REMARKS.
Mal or Maler. The Rajmahal Hill Tribe.	Rajmahal Hills ...	921	6,756	33,780	This race inhabits the summits of the hills only, and pays no taxes or ground-rent to Government.
Sonthals.	Thannahs.				This race inhabits the valleys and low-lands and pays a ground-rent to Government.
	1 Rajmahal ...	385 (Paying-rent.)	4,185		
	2 Diggee ...	294 (Paying-rent.)	3,823		
	3 Hurhurreea ...	181 (Paying-rent.)	2,127		
	4 Doomka ...	304 (Paying-rent.)	3,027		
		1,164	16,653	83,265	
	Scattered in the above 4 Thannahs and not paying rent; not having been occupied three years ...	309	3,403		
	Grand Total ...	2,394	23,409	117,045, or 103 souls per square mile area; hilly tract being 1,366·01 square miles.	

Statement showing the amount of Cultivation, Fallow, and Waste Land in the Damin-i-koh or the Rajmahal Hills, for the year 1851.

Names of Tribes.	Acres under Cultivation and Fallow.	Square Miles.	Square Miles, being within the Damin-i-koh boundary which are occupied by hills and uncleared forest, but which are culturable.	Total Area of the Damin-i-koh, in Square miles.	REMARKS.
Mal or Hill Tribe	35,840	56	.....	.....	The whole of this cleared land is on the hills.
.....	.....	.....	1,056·01	1,366·10	.....
Sonthal ...	1,62,560	254	.....	.....	This cleared land lies in the valleys and low-lands.
Grand Total ...	1,98,400	310	1,056·01	1,366·01	Which allows each inhabitant 6*ac.* 0*r.* 34 *pls.* acres upon the total or gross area, or 1 *ac.* 2 *rd.* 3 *pls.* of cultivation.

Statement shewing the amount of Assessment and approximate Expenditure on account of Damin-i-koh, for the year 1851.

Expenditure.	Co.'s Rs.	Receipts, 1851.	REMARKS.
Expenses for collecting the Revenue ...	340	.....	It will be seen from this statement, that the Damin-i-koh territory, which supports the large population of 1,17,045 souls, also supports a Regiment of 400 men, and enables Government to grant 15,000 Rs. yearly as pensions to a half wild race, who would, were not they paid these trifling pensions, be an intolerable nuisance to the neighbouring districts.
Expenses for the Bhaugulpoor Hill Rangers; about 400 men, at 5 per mensem; besides officers ...	30,000		
Superintendent's pay	6,600		
Ditto travelling allowance ...	360		
Ditto Elephants... ...	360		
Pensions paid to the Hill Chiefs and others, *viz.*,— 17 Sirdars at 10 ... 70 Naibs at 3 ... 435 Mangis at 2 ...	15,000	Co.'s Rs. As. P. 43,918 13 5½	
Total 522 Pensioners.			
Grand Total Expenditure ...	52,660	G. Tl. Rpts., 43,918 13 5½	

Alphabetical Statement of Pergunnah Areas in the Bhaugulpoor District, South of the Ganges.

Numbers.	Names of Pergunnahs.	Total Area.				Number of Villages.
		Acres	R.	P.	In Square Miles.	
1	* Akbernuggur	2,714	3	03	4·24	5
2	† Bhaugulpoor	448,203	3	39	700·46	1,380
3	* Buhadoorpoor	31,406	0	31	49·17	52
4	* Cheotowleea	10,013	0	0	15·65	37
5	Chandun Kuttoorcea	116.699	0	02	182.34	90
6	Chundweh	65,359	2	22	102·12	73
7	Colgong	208,915	3	18	326·43	414
8	Danra Sukwara	191,528	3	34	299·26	82
9	‡ Dhurarah	6,725	1	05	10·50	29
10	* Damin-i-koh, or Rajmahal Hills	874,247	0	0	1,366·01	1,473
11	* Godda	88,111	1	24	137·68	161
12	* Hondweh	366,889	0	21	573·26	173
13	Huzzar Tukhee	6,675	0	15	10·43	70
14	* Inayutnuggur	2,854	1	25	4 46	5
15	* Jumoonee	19,886	0	0	31·07	26
16	Jehangeerah	24,701	2	29	38·74	55
17	‡ Kurrukpoor	121,638	0	29	190 06	53
18	§ Kherhee	31,425	2	31	49 10	100
19	* Kankjole	88,551	3	16	138·36	182
20	§ Lukhunpoor	28,893	1	18	45·15	124
21	* Mukraeen	821	2	10	1·28	8
22	Musdee	4,154	2	17	6·49	5
23	‡ Purbutpara, including Tuppeh Ludweh and Simroun... ...	125,369	2	08	195 90	124
24	* Pussye	111,504	2	16	174·22	79
25	§ Suhroee	131,961	0	31	206·19	350
26	‡ Singhol	19,132	3	39	29·89	18
27	‡ Sukhurabadee	44,179	2	26	69·04	133
28	* Sooltangunge	197	1	08	0 30	1
29	* Sooltanabad	187,474	2	15	292 93	85
30	† Sutcearee	8,175	1	0	12.77	50
31	* Tuppeh Muncharee	53,179	0	0	83.10	164
32	* Tuppeh Belputtah	283,192	2	09	442·48	279
33	* Telecagurhee	9,412	0	32	14 71	3
34	* Umloo Moteea	8,269	1	32	12 92	30
35	*Umbar	92,245	2	18	144 13	83
36	Waseela	90,376	0	06	141 22	89
	Total	3,905,326	2	29	6,102·06	6,120

The Pergunnahs, marked * have been transferred *entire* to the Sonthal Pergunnahs, *portions* of those marked † have also been transferred to the Sonthal Pergunnahs.

The Pergunnahs marked ‡ have been transferred *entire* to District Monghyr : *portions* of those marked § have also been transferred to District Monghyr.

Table showing the principal Pergunnahs in Zillah Bhaugulpoor where Poppy for the produce of Opium is grown, and the amount of produce for Season 1848-49.

Number.	Names of Pergunnahs or other Divisions, and amount of Beegahs under poppy cultivation.	Beegahs.	Amount of Opium produced in each Pergunnah or other Division. Opium.	Soil generally employed for the growth of the poppy.	Remarks.
1	Singhol	67 1 0 0	8 38 10 0	Kewal and Putchroottee, &c.	These are all irrigated lands.
	Dhurarah	418 15 0 0	73 38 6 0		
	Sukhurabadee	1,276 11 0 0	143 20 10 0		
	Jehangeerah	169 18 0 0	21 9 14 0		
5	Lukhunpoor	420 7 10 0	50 35 13 0		
	Kurrukpoor	576 3 0 0	74 6 11 0		
	Purbutparah	1,055 5 0 0	158 32 4 0		
	Wasseela	706 13 0 0	111 38 3 0		
	Suhroee	3,533 1 7 0	430 10 1 0		
10	Kherhee	354 19 12 0	33 22 0 0		
	Musdee	41 7 0 0	3 28 7 0		
	Bhaugulpoor	1,735 9 3 0	148 8 13 2		
	Huzzar Tukhee	.....	.....		
	Chandun Kutoorrea	104 0 0 0	7 22 13 0		
15	Danra Sukwara	154 15 4 0	10 25 1 0		
	Chundweh ... ... } Pussye	42 7 14 0	1 10 12 2		
	Godda	45 4 15 0	2 19 2 2		
	Umloo Motees	.....	.....		
20	Hendweh	.....	.....		
	Damin-i-koh	.....	.....		
	Sooltanabad	.....	.....		
	Tuppeh Belputtah	.....	.....		
	Tuppeh Munheearee	46 19 10 0	5 2 4 2		
25	Suteearee	3 5 0 0	0 11 11 0		
	Colgong	636 4 15 0	62 15 8 0		
	Teloeagurhee	.....	.....		
	Kankjole	.....	.....		
	Bahadoorpoor	.....	.....		
30	Umbar	.....	.....		
	Poer Mujhooee	.....	.....		
	Kunjeeala	.....	.....		
	Cheetowleea	.....	.....		
	Jumoonee	.....	.....		
	Tuppeh Mander	49 17 11 0	2 8 12 0		
36	Tuppeh Barkope	10 13 9 0	0 26 4 0		
	Total	11,481 18 10 0	1,351 32 1 8		

Statement showing the Annual Assessment in Pergunnahs of the District Bhaugulpoor, surveyed in Seasons 1846 *to* 1849.

	Names of Pergunnahs or other Local Sub-divisions.	No. of Villages.	Present Jumma.	Total Area in Acres.	Barren or otherwise unculturable.	Total cultivated and culturable.	Total cultivation in Acres.	Average per Acre Present Jumma. On Total Area.	On Total cultivation and culturable.	On cultivation.	Remarks.
			Rs. As. P.					Rs. As. P			
1	Bhaugulpoor	1,380	1,27,569 11 0	448,204				0 4 5			No. 13, or Muhalat Kurrukpoor, consists of 19 Pergunnahs, for which there is no separate Jumma; and which is paid annually by the Zemindar without any definition of the sum assessed on each Pergunnah, *viz.*,
2	Colgong	444	67,073 12 5	208,916				0 5 2			
3	Kankjole	182	19,874 13 2	88,652				0 3 7			
4	Sooltanabad	85	14,167 1 8	187,475				0 1 2			
5	Buhadoorpoor... ...	52	7,425 14 9	81,466				0 3 9			
6	Umbar	83	9,334 5 5	92,246				0 1 7			
7	Teleeagurhee	3	598 4 5	9,412				0 1 0			Cheetowleea.
8	Jumoonee	26	6,868 10 8	19,886				0 5 6			Chandun Kutoorsea. Daura Sukwara.
9	Tuppeh Belpattah ...	279	11,919 13 8	223,193				0 0 77			Dhurarah. Godda.
10	Akbernuggur	5	270 8 4	2,715				0 1 7			Hendweh. Huzar Tukkee.
11	Inayutunggur... ...	5	204 11 6	2,854				0 1 1			Jehangeerah. Kurrukpoor.
12	Sooltangunje	1	5 7 11	197				0 0 5			Luckhunpoor. Musdee.
13	Muhalat Kurrukpoor.	1,887	81,611 1 10	1,470,011				0 0 10			Purbutparah. Suhroee.
14	Chundweh, Passee, and Suttecaree ...	207	9,946 8 4	185,040				0 0 10			Singhol. Sukhurabadee. Tuppeh Munheearee. Umloo Mootees.
15	Mukraeen	8	832 12 9	822				0 6 4			Wasseela and Kherhee.
16	Rajmahal Hills ...	1,473	43,018 13 5	874,247				0 0 9			
	Grand Total ...	6,120	4,00,302 7 3	3,905,326							

OFFICE OF REVENUE SURVEYOR;
BERHAMPORE,
The 31*st October* 1852.

W. S. SHERWILL, *Captain,*
Revenue Surveyor.

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GENERAL REMARKS ON THE DISTRICT OF BHAUGULPOOR.

North of the Ganges.

By J. J. Pimblerton, Esq.

These four pergunnahs are situated immediately to the north of the town of Bhaugulpoor, the capital of the district, and on the northern side or left bank of the River Ganges, between the parallels of latitude 25° 14′ and 26° 26′ N. and meridians of 86° 20′ and 87° 12½′ E. longitude. They are bounded on the extreme north by the Napaul Territory, on the west by the districts of Tirhoot and Monghyr, on the south by the Ganges River. Pergunnahs Jehangeera, Bhaugulpoor, and Colgong, and on the east by the district of Purneah They appear to have belonged formerly to Tirhoot, and are very inconveniently situated.

These pergunnahs as well as the remainder of Bhaugulpoor, having been settled in perpetuity, the boundaries of villages with their geographical details, alone have been surveyed; except in cases where intermixed lands have occurred, when a khusrah or detailed measurement has taken place.

The appearance of the country, although a complete level, is pleasing, as it is diversified with fine mango topes intermixed with various other kinds of trees

Language of the inhabitants, Oordoo; written character in use, Nagree; but many understand the Persian character.

Wild Animals.—The wild buffalo, hog, leopard, deer of various kinds, the antelope, hyena, jackall, fox, porcupine, hare, common monkey, ichneumon, squirrel, and wild cat.

Domestic Animals.—Those common to India.

Wild Birds.—Ducks and teal in immense numbers, snipe, ortolan, grey partridge, quail, chandel or crested lark, lark which rises, floats and sings, the crane in all its variety, peacock, parrokeet, parrot, hawk, doves of various kinds, pigeon, hurrial or green pigeon, bulbul, wild goose, spoonbill, sarus, torus, fishing eagle, vulture, kite, crow, jackdaw, owls, large and small, king-fisher, wood-pecker, jay, plover, curlew, paddy-bird, koel, golden orial, byr, common sparrow, &c.

Domestic Birds.—Those common to India.

River Animals.—Otter, porpoise, tortoise, crocodile or gurrial, alligator bocha, or muggur.

Snakes.—Boa constrictor, black cobra de capella, brown ditto, dhemna, koracet, green snake, mahil tree-snake, and several kinds of water-snakes.

Reptiles.—Goh saup, bishkopra, blood-sucker, scorpion, centipede, and various kinds of lizards.

Fish—Are very numerous in the Gogri and Tiljoogah. They are the rohee, kutla, tingra, hilsa, pufta, cawee, mullet, muhoo, boosloo, eel, prawn, and several other kinds of inferior quality.

Trees.—Sukwa, mango, burgut or banian tree, peepul, pakur, jamoon, jack, tamarind, kuchnar, semul, babool, goolur, tar, date, neem, bukaeen, satsal, and muhoopa.

Note.—Four pergunnahs were added in 1861 to the district north of the Ganges River, *viz.*:—

			Acres	R.	P.	Sqr. miles.
From District Monghyr	..	Pergunnah Kubkhund	98,180	2	26	153·40
		„ Ooturkhund	70,173	2	3	109·64
From District Purneah	...	Pergunnah Dhuphur	103,311	1	37	= 161·42
		„ Narhpoor	1,76,969	0	0	= 276·51
		Total	4,48,634	2	26	= 700·97

Minerals.—None that I am aware of.

Principal Crops—Have been fully described in the report of Pergunnah Nareedeegur. There are many kinds of kullye; the theekra is the most useful, as horses, cattle, sheep, &c., are very fond of it; and when gram is scarce or dear, it is a good substitute, being quite as nutritious. Ginger, turmeric, capsicum, onions, coriander, anise, gol-aloo, shakurkúnd-aloo, yams, radishes, large and small, carrots in great abundance, kusum, a small patch of tobacoo almost at every village, and a variety of other grain too numerous to mention.

Fruit.—Mango, plantain, ata, custard-apple, plum, jack, guava, jamoon, pine-apple, mulberry, musk-melon, water-melon, lime, citron, tar-fruit, leeche, gooseberry, monkey-jack, bale or woodapple, kirnee, &c.

Rivers.—Fully explained in the Pergunnah Returns. Except in Mulhnee Gopal, the Dhars are not artificial, as in Shahabad and Behar, but are generally the old beds of rivers or nullahs.

Rent—Is paid in two ways. *First*, in money or Nukdee; *secondly*, in kind,—as grain, oil, &c., or bhaillie.

Exports—Principally are opium, indigo, sukwa timber, onions, tobacoo, and saltpetre.

Diseases.—Intermittent fever with ague, enlargement of spleen, nakra (attended with fever, pain in the head, inside of the nose much swollen and cartilage very painful); these are most common.

Ornaments.—Necklace of glass beads or stone for the arms; choorees of colored lac, sometimes of bell-metal; bell-metal, or sometimes silver, rings for the ankles; rings, brass, silver, and sometimes gold, for the fingers; a star on the forehead, or else part of the forehead; and head besmeared with red-lead; tatooing is also frequently adopted.

Salt—Is procurable in sufficient quantities, and at a rate available to all.

Spirits—Are in general use, distilled from the flower of the muhooa tree, or toddy. Drunkenness is very frequent, even Mussulmen indulge in this way.

Assessment.—The people are well pleased with the low rate of assessment, and well they may; for since the jungle has been cleared, very many mouzahs have been trebled in value. But the zemindars cannot understand why a survey should be made; of this, I shall treat at large in the Statistical Report of another district.

The assessment per *acre*, according to the General Statement, is low in the extreme, and is calculated from the amount of present jumma, as actually received by the collector; but it must not for a moment be supposed that this is the general rate at which land is rented. The under-mentioned classification will show the value of land per *beegah*, and as I have made minute inquiries, I am convinced my statement is correct. There are seven different rates, *viz.*,

1st, or very best land		is rented at	Rupees	2	0	0	per beegah.
2nd	quality	at	„	1	8	0	„
3rd	„	at	„	1	4	0	„
4th	„	at	„	1	0	0	„
5th	„	at	„	0	12	0	„
6th	„	at	„	0	8	0	„
7th	„	at	„	0	4	0	„

The two last are jungle in a state of being cleared, and jungle just let out for that purpose, which gradually rise in value until they assume a 1st, 2nd, 3rd, or 4th position in

the above scale; or else they rest at No. 5, which is a poor soil, and is never rented for more than 12 annas per beegah. The cause of the low rate of assessment per acre, as exhibited in the General Statement, is easily accounted for. In 1798, when the last settlement took place, nearly two-thirds of Bhaugulpoor north of the Ganges was grass or tree-jungle; the assessment of these jungles was for the most part nominal, and even the cultivated parts of these pergunnahs were settled very favorably for the owners of the soil and on mere estimated areas: hence the great discrepancy between the average jumma per acre of the whole, and the actual value of the land as noted above. Many vain regrets obtrude themselves here respecting the perpetual settlement of Bengal, knowing, as I do, the wonderfully improved state (as to cultivation) of these four fine pergunnahs; but it is useless to indulge in them, or to comment on the thousand per cent. loss Government is sustaining in consequence of this settlement.

Population.—Very great difficulty is experienced in procuring information respecting the number of houses in each village; the village officers invariably try to throw obstacles in the way when an inquirer is sent to the spot; or if they are summoned to your office, will either lie outright, or so interlard their answers with irrelevant matter, as to render it difficult to come to any conclusion: therefore any information I submit on this subject must be received very cautiously; and I feel persuaded no very correct census can ever be obtained in India by a surveyor in a perpetually-settled soubah, such as Bengal; it *must* be the work of the police under the strict superintendence of active magistrates, to prevent extortion and oppression, as well as by their authority to insist that the views of Government are carried out. The details I have collected will be found in the General Statistical Table. The Hindoo population very much exceeds the Mussulman; the best local authorities I have had an opportunity of consulting state the difference to be as 10 to 1 of the whole four pergunnahs; although, taking them respectively, a variation in the ratio will appear. From the data contained in the General Return, it appears that Bhaugulpoor, north of the Ganges, contains 965 villages, 1,698$\frac{622}{640}$ square miles, 90,160 houses, and allowing 5 to each house, a population of 452,300 souls, which gives 266¼ souls to the square mile.

Khusrah.—In these four pergunnahs, 88 villages have undergone khusrah measurement, giving an area of 156·687 acres, or 244$\frac{627}{640}$ square miles, at an expense for measurement alone of Company's Rupees 2,156-1-11. There are several local beegahs in use, which have all been recorded in the statements of the pergunnahs to which they are proper. The measurements were made by contract ameens, who were paid at the rate of Company's Rupees 1-12 per 100 acres for cultivation and juddeed, and 14 annas for the same quantity of kuddeem and waste.

Since writing the above, I find that no poppy is now cultivated in these pergunnahs, Government having issued orders to the Opium Agent to decrease the cultivation.

PERGUNNAH NAREEDEEGUR.

North of Ganges.

1. Pergunnah Nareedeegur, originally evidently forming a portion of the Tirhoot district, is the most northerly of the pergunnahs of Bhaugulpoor, north of the Ganges; it is bounded on the extreme north by zillah Subteree of the Nepal Territory From the Doomra River at its triple junction with Subteree and Pergunnah Dhuphur of Purneah, the boundary runs in a straight westerly direction, inclining a little to the north, for four miles and a quarter, until it joins the Tiljoogah River, which forms a natural boundary between Pergunnah Nareedeegur, and the remaining part of the Nepal Territory which abuts on it.

The line of boundary between the Doomra and Tiljoogah is demarcated by a well-raised dike and three substantial masonry pillars, placed nearly equidistant from each other. It is bounded to the west and partly on the south by Pergunnahs Aleepore, Puchee, and Khund of the district of Tirhoot; on the south and partly on the east, by Pergunnahs Mulhnee Gopal, and Nusinghpoor Kooruh of Bhaugulpoor; and the remainder of the eastern boundary borders on Pergunnahs Puchee, Nathpore, and Dhuphur of the district of Purneah.

2. This is a very highly-cultivated pergunnah, nearly four-fifths being under culture, and produces in great abundance wheat, barley, rice, maize, various kinds of pulse, poppy and indigo; the lands are irrigated generally from dhars and nullahs, which are replenished yearly by the superfluous waters of the various streams which intersect the pergunnah; but great care is also taken by the zemindars to fill these dhars by draining water into them during the rains; the water thus accumulated becomes common property to the lands adjoining; the surface of the whole is completely level, with a slight declination towards the Ganges, in a south-easterly direction.

3. *Rivers.*—The principal rivers are the Tiljoogah, the Batee, and the Doomra. The first flows from zillah Zubturee or Subteree of Nepal, and forms the western natural boundary for upwards of 15 miles, after which it enters the western part of the pergunnah at the village of Ramaul. From this point it detaches many dhars and nullahs, which plentifully supply this part of the pergunnah with water for the purposes of irrigation, &c. The principal stream continues its course uninteruptedly, although with many windings, until it again touches the western boundary at the village of Nurgho, after which it flows in a nearly southerly direction and passes into Khund of Tirhoot; the water of this river is considered very healthful.

4. The Batee is nothing more than an arm of the Tiljoogah, and is frequently so named by the people; it formerly separated from the mother stream at the village of Bela, on the north-western boundary; but this channel has long since been dried up, and in many places can scarcely be discerned, so that it could never have been a very deep one. The Tiljoogah, though narrow, is deep, and in the rainy season has a very rapid stream. No boats ascend it even during the rains to any mart in this pergunnah, but large rafts of timber are floated down its stream. The Doomra is an insignificant stream when it enters this district; rapid during the rains, but in the hot weather, in many places it becomes dry, and the intermediate patches of water stagnate. There is only one jheel of any magnitude, *viz.*, the Kyl, which has four proprietors.

Little jungle exists in this pergunnah, and that is situated at its south-eastern extremity, perhaps 9,000 acres at the utmost; this consists principally of the sukwa tree, the timber of which is much estimated for its durability and strength. It is taken in large quantities to Monghyr and Bhaugulpoor: the branches are much used by the natives for posts and rafters, in constructing their houses.

5. *Roads.*—There are no good roads; that from Subteree to Soopaul thannah is kept in indifferent repair by the zemindars, but that from Nathpoor to Singhaisur is by far the best, and is much frequented by native travellers and traders, conveying merchandise from the interior marts to Bhaugulpoor or Monghyr.

6. *Principal Towns.*—The principal towns situated within this pergunnah are *Dugmurra*, *Peeprahee*, and *Peepra*, but the largest and most populous town is *Jhunjharpoor*, detached in Pergunnah Puchee of Tirhoot. Part of the Tirhoot Rajah's family reside here. There are several well-constructed houses in the town; trade appears to be in a flourishing state; and there is an air of comfort and prosperity throughout, which shows that the people

are much more wealthy than they are pleased to acknowledge. Weekly markets are held in all the above-named towns; they have also well-stocked bazars, where travellers can be supplied with every necessary. Weekly hauts are likewise held in several villages throughout the pergunnah, at which a considerable deal of business appears to be transacted.

7. The soils of this pergunnah are rich, they are Mutcear, Domut or Dorus, and Balsoondur; the harvests are Budooe, Kurreef, and Rubbee; and the principal crops are as follows:—

Wheat, barley, peas, gram, mussoor dal, teesee, mustard-seed, urhur dal, kullye, castor oil seed, cut or gathered in April.

Sattee paddy, kullye, sama, jowara, mukaie, bajra, murwa, moong dal, khodo, mutawa or intoxicating khodo, cut or gathered from 15th August to 30th September.

Paddy, koorthee, moong, til, kullye, cotton, sugar-cane, reaped or cut in the cold weather.

Vegetables, poppy, tobacoo, and indigo, cut in their appropriate seasons. When irrigation is necessary, it is carried on from dhars and nullahs as above noticed; and in some instances, in the northern and eastern part of the pergunnah from wells. The mode of raising the water is simple, and does not cause much manual labor, the lever and bucket are not much in use, except in the private gardens of the wealthy.

8. The climate is much drier than that of Purneah, say twenty miles to the eastward, and more healthy, which is evidenced by the improved appearance of the inhabitants from those of that district.

9. This pergunnah is placed under the Police jurisdiction of the *Soopaul thannah*, and there are two chowkies of this thannah situated in the villages of Dugmurra, Peeprahee, and Peepra. The people now appear to be quiet and well-disposed, and it is but seldom that a serious misdemeanour takes place, more especially since the appointment of a deputy magistrate, who has centrically located himself at the large town of *Dorum Mudehpoor*, of Pergunnah Nusinghpoor Kooruh, having the whole of Bhaugulpoor, north of the Ganges, under his immediate superintendence. Thirty-five or forty years ago, this part of the country was covered with jungle, but numerous Rajpoot settlers from Shahabad and Tirhoot took forcible possession of the jungle lands and gradually cleared them, about which time the character of the people was noted for its turbulency and disorder. Gangs of dacoits frequented the jungles, from which they often made distant excursions and committed extensive robberies, generally attended with bloodshed; and thugs were so numerous, that unless in large bodies, travellers never ventured to pass this part of the district.

10. *Area.*—The total area of this pergunnah is 2,58,166-2-15 acres, or $372\frac{86}{640}$ square miles; its shape is irregular, and it has four detached villages and one arazee, whose united areas amount to 2,464-2-03 acres.

The beegahs in use in this pergunnah are as follows:—

1	Luttah	6	haths of	18 inches=3,600	square yards	per beegah.
2	Ditto	6½	ditto	=4,225	ditto	ditto.
3	Ditto	7	ditto	=4,900	ditto	ditto.
4	Ditto	7½	ditto	=5,625	ditto	ditto.

11. The rate of assessment will be found in the General Statistical Return.

12. Altogether, this pergunnah seems to be in a prosperous state, many things of course are open to improvement; the present system of mustajiri or middle-men, the bane of all agriculturists throughout the world, must be abolished, before the power of the ryot to improve his tenure can be fully developed. Time and more perfect civilization alone can accomplish this, and we must calmly look on until the Divine Disposer of all events sees fit to break the shackles of superstition and hereditary custom, which at present bind the minds of our Indian fellow-subjects.

MULHNEE GOPAL.

Situation.—Pergunnah Mulhnee Gopal is a small but compact pergunnah, and has no detached lands. It is bounded on the north by Pergunnah Nareedeegur, on the west by Pergunnahs Khund and Dhurrour of Tirhoot and Pergunnah Kubkhund of Monghyr; on the south by Pergunnah Ooturkhund of Monghyr; and on the east by Pergunnah Nusinghpoor Kooruh of Bhaugulpoor.

2. *General Appearance.*—This is a very highly-cultivated pergunnah, about four-fifths being under tillage, and it produces in rich abundance all the crops noted as peculiar to Nareedeegur; and if it be an advantage, all the principal zemindars of the above-named pergunnah reside within its limits. Its surface is a complete level, inclining to the south and west; it is beautifully wooded, and interspersed with numerous Hindoo temples, especially in the vicinity of the large towns and villages.

3. *Rivers.*—The same rivers run through this pergunnah as noted in Nareedeegur; the Tiljoogah forms a natural boundary between it and Tirhoot, nearly along the whole extent of its junction with that district. The Bateo runs in a south-westerly direction, towards the triple junction station of Tirhoot and Monghyr, near which, by the Ludooa Khal, it empties itself into the Tiljoogah and loses its name. The Doomra maintains the same character as originally given.

Irrigation.—From a view of the geographical map of this pergunnah, it might be supposed that it is indifferently watered; but this is far from being the case, as the zemindars seem to be quite alive to the benefits to be derived frem agriculture, and have used artificial means where natural ones have been wanting, and there is scarcely a village that has not its dhar or tank. Traces of the old Talabeh River are to be found in this pergunnah, it must have been a very considerable stream in former days, as its old bed is 12, 15, and in some places, 20 chains wide, and is at present richly cultivated, except in two or three places, where there are deep dhars.

4. *Roads.*—The roads are in much better repair in this pergunnah than in Nareedeegur; this is owing to so many zemindars residing here, who generally repair those in the immediate neighbourhood of their own villages.

5. *Principal Towns.*—The principal towns are *Soopaul*, *Mulhnee* Gote, *Beam*, *Burooaree*, *Pursurman*, *Hurtolee*, *Salhnee*, and *Sookhpoor*. In all these there are weekly markets, and as in Nareedeegur, hauts are held in several places throughout the pergunnah.

6. The soils are Muteear, Dorus, and Balsoondur; and the harvests,—Bhudooe, Kurreef, and Rubbee. The climate is good, and the inhabitants robust and active.

The *Soopaul* police jurisdiction prevails here also, and there are no detached chowkees within the pergunnah.

7. *Local Measures.*—The Luttahs in use are 6 haths and 6½ haths of 18 inches, respectively, 3,600 and 4,225 square yards per beegah.

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The rate of assessment will be found in the General Statistical Return.

8. *Area.*—The total area is 89,779-0-36 British acres, or 140$\frac{112}{640}$ square miles.

9. There is no doubt that this pergunnah is in a prosperous state. My remarks as to Nareedeegur are fully borne out as to this, and, in fact, all pergunnahs of Bhaugulpoor north of the Ganges.

NUSINGHPOOR KOORUH.

Situation.—Pergunnah Nusinghpoor Kooruh is bounded on the north by pergunnahs Mulhnee Gopal and Nareedeegur of Bhaugulpoor and Pergunnah Hurawuth of Purneah; on the east by Pergunnah Dhurumpoor of Purneah; on the west by Pergunnahs Ooturkhund and Furkyah of Monghyr; and on the south by Pergunnah Chye of Bhaugulpoor.

2. *Rivers.*—The old Talabeh River forms the natural western boundary. This river, or rather dhar, during the hot weather dries up; except in places to the south, where it leaves deep stagnant dhars. In ancient days, it must have been a very considerable stream, for its bed from bank to bank is quite discernible now, and measures from 15 to 20 chains across. This bed, after the waters dry up annually is cultivated, and the land produces rich crops, with very little tillage. The Purwan and Dhusun Rivers both take their rise in the south-eastern corner of Pergunnah Nareedeegur; the former from a dhar of the old Talabeh River, and the latter from a spring near the boundary of the village of Belarhutta. They pursue different courses, about 2½ or 3 miles apart, until their waters mingle at Singhaisur-than, where there is a temple build to Mahadeb. This spot is considered very holy, and several thousands of devout Hindoos resort to the shrine in Phagoon or February, to pay their devotions, bringing with them small quantities of the Ganges water. At this place, Dhusun loses its name, and the mingled waters bearing the name of the Purwan, flow on to the south. This river, after a tortuous course of nearly 30 miles, forms the Suhsaul Jheel, the outlet from which assumes the name of the Chutnau dhar and flows into Pergunnah Furkyah, a mile and a quarter below the triple-junction station of that Pergunnah, and Chye of Bhaugulpoor. The Chelaunee rises from a jheel in Pergunnah Hurawuth of Purneah, enters this zillah at the village of Thulla Gurheea, Pergunnah Nareedeegur, flows close to the common boundary of both for five miles, when it suddenly swerves off to the right and then runs very tortuously towards the south, throwing out many dhars, one of which, the Lorun, supersedes the parent stream, at the village of Pundua, under which name it continues its course to the southern boundary of the pergunnah, touches on the Sahsaul Jheel and mingles with the Chutnau dhar.

Irrigation.—This pergunnah is exceedingly well watered; there are many large jheels; the tanks and dhars are almost innumerable, and irrigation is consequently carried on in a very cheap and easy manner.

3. The roads from Tirhoot to Singhaisur-than and from thence to Bhaugulpoor and Monghyr, are kept in tolerable repair, jointly by the planters and Ferry Fund Committee. The road from Singhaisur-than to Monghyr is much frequented by carts, conveying sukwa timber from the jungle. This jungle is being rapidly cleared, and will well repay the proprietors, as the soil is of the very best quality; the sale of the timber more than compensates the present outlay for clearing the land, carriage, &c., &c.

4. This pergunnah is partly within the police jurisdiction of thannah Soopaul and partly within that of Kishungunge; and as noticed before, Mr. Doveton, the deputy magistrate, holds his kutcherry within this pergunnah, at the village of Dorum Mudehpoor.

5. *Principal Towns.*—The principal towns are *Balaree, Dorum Mudehpoor, Rughoonathpoor, Shahpoor, Chamokh, and Kank;* and the only place of note is *Singhaisur-than*, held sacred by the Hindoos, as before noticed.

6. The climate is justly considered salubrious for Europeans, which the florid and healthy appearance of the planters indicates, many of whom reside in this pergunnah and have entered largely into agricultural speculations, much to the benefit as well as improvement of the inhabitants.

7. The soils are Muteear, Dorus, and Balsoondur; the harvests,—Bhudooe, Kurreef, and Rubboe; the crops,—the same as those noted in Nareedeegur. Pineapples grow luxuriantly in nearly all the planters' gardens; indeed, for size and flavor, I have never seen them exceeded. European vegetables abound; the climate and soil are both genial to their produce. From what has been already mentioned, it is scarcely necessary to state, that this pergunnah is highly cultivated. Upwards of four-fifths is under tillage, and the jungle to the north-east of the pergunnah is rapidly disappearing under the woodman's axe. The people appear to be contented and happy: and with a little improvement of general system, I can scarcely fancy any division where nature's gifts have been more bountiful, or are better adapted to produce comfort, wealth, and happiness amongst its favored inhabitants.

The total area of this fine pergunnah is 445,805-3-34 British acres, or 696$\frac{366}{640}$ square miles.

8. The Luttahs in use are as follows:—

1 Luttah,	6	haths of 18 inches	= 3,600	square yards	per	beegah.
2 Ditto	6½	ditto	= 4,225	ditto		ditto.
3 Ditto	7	ditto	= 4,900	ditto		ditto.

9. The rate of assessment will be found in the General Statistical Return.

CH'HAI OR CHYE.

Situation.—Pergunnah Ch'hai or Chye is the most southerly of the Bhaugulpoor Pergunnahs north of the Ganges, and is bounded on the north by Pergunnah Nusinghpoor Kooruh, on the east by Pergunnah Dhurumpoor of Purneah, on the west by Pergunnah Furkyah of Monghyr, and on the south by Pergunnahs Juhangeera, Bhaugulpoor, and Kuhilgong or Colgong of Bhaugulpoor.

2. *Rivers.*—Its rivers are the Ganges, the Kulbullia, the Ghugra, Tiljoogah, Douse and Cutna. The main stream of the Ganges runs through the large village of Telukpoor. This channel, during the time of survey, was very deep; but the river about this place is so very eccentric, that there is no certainty of the channel being in the same place for two years consecutively: there are also two large branches of the Ganges in the south-western corner of the pergunnah, which are rather mischievous, than otherwise, to the agriculturist, as the alluvion they deposit is for the most part sand. The Kulbullia is also a branch of the Ganges. During the rains it is very deep, and comparatively speaking, a sluggish stream; and the steamers, to avoid the impetuosity of the Ganges during the rainy season, and when not necessarily obliged to call at Bhaugulpoor, run through this channel. Indeed, I have several times seen steamers take the Kulbullia course, and then drop down the Ganges to the coal depôt, or to land passengers or cargo. This channel is about 20 miles long from point to point. During the hot weather it is completely dry, although there cannot be less than 30 feet of water in it, when the Ganges has attained its highest mark.

3. The Ghugri is a very fine river. It enters the pergunnah from Furkyah of Monghyr, and pursues a very winding course, in a due easterly direction, until it mingles with the Coosey at Sowra Gudhee, where there is a good ghat and four boats. This is the

Tiljoogah formerly described in Pergunnah Nareedeegur; in Pergunnahs Kubkhund and Furkyah of Monghyr, its channel becomes much wider and deeper from the influx of various tributaries, and it only assumes the name of Ghugri on its entrance into Chye. It detaches a small stream to the south, as it passes through the village of Kishunpoor Rutwara, about 2 miles from the western boundary of the pergunnah, which is called the Tiljoogah dhar. This dhar runs in a very serpentine manner for at least 30 miles, when it rejoins the parent stream at the village of Bazeedpoor. Fish, of almost every description, abound in the Ghugri, especially the rahu and katla, which are carried in vast numbers on light boats to Moorshedabad.

4. The river is farmed out to fishermen by the various proprietors; its water is clear and deep, and boats of 3 or 400 maunds can ascend its stream far into Furkyah even during the dry season.

5. The Douse is rather an extraordinary river. Tradition states that it rises in the Morung of Nepaul and runs parallel with the Beer Bund of Pergunnah Dhuphur of Purneah into Hurawuth of that zillah; but I must confess, when I surveyed Pergunnah Dhuphur, I could find no trace of a river at the place described. It is true I found a small dry nullah close to the bund, but this appears to have been formed by clay having been dug from it at different times to repair the bund. My opinion is, that the Douse is nothing more than a small arm of the Herun or Coosey, (it is impossible to say which now, as these rivers have been united since 1847,) and that it is fed by dhars from them. It enters this pergunnah from Nusinghpoor Kooruh, and runs in a very narrow channel near its eastern boundary for about 7 miles, when it spreads out into a jheel from 20 to 60 or 65 chains wide, and maintains this character until it empties itself into the Ghugri River. A great part of the jheel dries up during the cold and hot weather and is cultivated for indigo, yielding an exceedingly fine crop, but the produce cannot at all times be depended on, as the river is subject to inundations from the Coosey, in which case the planters are severe sufferers. The Chutnau is an insignificant stream, bounding the pergunnah on its north-eastern extremity for about 4 miles and then running into Furkyah of Monghyr.

6. *Roads.*—There are only two good roads; those from Nathpoor and Purneah to Bhaugulpoor; they are kept in tolerable repair by the Ferry Fund Committee.

Police jurisdiction.—This pergunnah is under the police jurisdiction of thannahs Kishungunge and Bhaugulpoor, that portion between the Ganges and Ghugri being under the Bhaugulpoor thannah. There is an outpost chowkie at Seebgunge, and also one at Phoolaut.

Principal Towns.—Seebgunge is a celebrated mart for all kinds of native merchandise; the high roads from Nathpoor and Purneah meet at this place; its ghat is also celebrated as a bathing place, and vast numbers of people assemble there in the month of January for that purpose.

7. The other principal towns are *Shezadpoor, Sheikhpoor, Chumun, Khorhan Meilik, Alumnuggur, Phoolaut, Jypoor Johur, Bhomurpoor, Dhurumpoor, Ruttee, Purmasurpoor, Midhowra, Masoompoor Dullee, Soneburs a, Umurpoor, Oosmanpoor, Toolseepoor, Rugra, Durhura, Sydpoor Baksh, Beshunpoor, Jysingh, and Moorlee Kishungunge.* In the latter there is a moonsiff's kutcherry, a thannah, and an opium godown. These towns are all in a flourishing state, have several modees' shops each, and weekly markets; besides this, there are weekly hâts in several villages of the pergunnah.

8. Many indigo planters reside in this pergunnah, who also follow other agricultural pursuits, much to the general improvement of the country. I do not agree with those who designate all indigo planters as "atrocious oppressors." I have had many opportunities

of observing their dealings with the natives; some may deserve the character, but in justice to the gentlemen who have settled in this part of the district, I must state that they are grievously wronged, should the stigma be cast on them; for as far as I have observed, the relative duties of landlord and tenant are strictly observed, and I am persuaded very few ryots would exchange their European masters for Hindustani ones. With the former, they are sure of protection and justice, while with the latter it is notorious that they are fleeced by the mustajirs of every available rupee.

9. *Soil.*—The soils are Mutecar, Dorus, Balsoondur, and Buloea. Irrigation is not so much resorted to as in the northern pergunnahs, but still the land produces in as rich abundance all the crops that flourish there. This is accounted for by the soil being of a damper nature, especially to the south of the Ghugri and near the Douse jheels.

10 *Tillage.*—This pergunnah is decidedly in a prosperous state, and may be said to be highly cultivated. Three-fifths, or perhaps a little more, is certainly under tillage; but some of the lands near the Ganges are injured by its sandy deposits, and there is a large tract of un-reclaimed grass jungle to the north and south of the Ghugri River

11. *Climate.*—The climate is salubrious, although a little damper than that of Nusinghpoor Kooruh.* The inhabitants are well conducted and hospitable, and appear to be contented and happy.

12. The beegahs in use are as follows:—

		II.	I.					
1	Luttah	5	9	of 18 inches	=	3,025	square yards	per beegah
2	Ditto	5	13	ditto	=	3,274	ditto	ditto.
3	Ditto	6	0	ditto	=	3,600	ditto	ditto.
4	Ditto	6	9	ditto	=	4,225	ditto	ditto.
5	Ditto	7	0	ditto	=	4,900	ditto	ditto
6	Ditto	7	2	ditto	=	5,057	ditto	ditto.

13. The rate of assessment will be found in the General Statistical Return.

14. The total area of this pergunnah is 313,590-3-15 acres, or $489\frac{31}{64}$ square miles. Its form is irregular; it is a complete level, inclining to the eastward, and it has only one detached arazee of $3\frac{1}{2}$ acres.

REVENUE SURVEYOR'S OFFICE;
BERHAMPORE,
18th August 1853.

J. J. PEMBERTON,
Revenue Surveyor.

Statistical Table of the four Pergunnahs of Bhaugulpoor, north of the Ganges.

No.	Names of Pergunnahs.	Number of villages by survey.	Cultivation.	Culturable waste.	Unculturable and barren waste.	Total area.	In square miles.	Total Government Jumma as rent per annum.	Rate of assessment per acre on total area.	Number of houses. Pucka.	Kuccha.	Total.	Number of inhabitants, each house containing five individuals.	Remarks
			Acres R. P.	Acres R. P.	Acres R. P.	Acres R. P.		Rs. As. P.	Rs. As. P.					
1	Mulhnee Gopal	73	69,691 1 12	11,177 3 24	9,000 0 0	89,779 0 36	140·28	16,850 0 3	0 3 0	21	7,582	7,603	38,015	
2	Nareedcogur	205	1,94,533 1 11	32,623 1 4	15,010 0 0	2,38,166 2 15	372·12	25,823 15 4	0 1 5	27	21 337	21,364	1,06,620	
3	Nusinghpoor Koorah	395	3,56,644 3 04	64,161 1 30	24,999 3 0	4,45,805 3 34	696·58	60,232 3 9	0 2 1	15	34,163	34,178	1,70,890	
4	Chye	262	2,36,235 1 35	48,360 1 30	28,999 3 30	3,13,590 3 5	489·99	91,154 1 9	0 4 7	20	27 295	27,315	1,36,575	
	Total . .	965	8,53,009 3 22	1,56,323 0 68	78,009 2 30	1,087,342 2 20	1,698·97	1,94,040 5 1	0 2 10	83	90,377	90,460	4,52,500 or 266 souls per square mile	
	Add, as noted at page 72.													
	Transfers from District Monghyr					1,68,354 0 29	263·04							
	Ditto dit Purneah					2,80,280 1 37	437·88							
	Grand Total					1,535,977 1 06	2,399·94							

REVENUE SURVEYOR'S OFFICE;
1ST OR NORTHERN DIVISION, BERHAMPOOR,
18th August 1853.

J. J. PEMBERTON,
Revenue Surveyor.

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